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This file contains CAS Registry Numbers for easy and accurate substance identification.

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L74 ANSWER 1 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2005:1240634 HCAPLUS Full-text

DN 143:479459

TI Highly corrosion-resistant compositions for coating non-chromated steel surface without interfering the welding ability and their formation

IN Sasaki, Kenichi; Miyoshi, Tatsuya; Yoshimi, Naoto

PA JFE Steel Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 58 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005325427	A	20051124	JP 2004-146335	20040517 <--
JP 2004-146335		20040517	<--	

AB The steel (particularly automobile panel) surface is coated by a base layer and a top layer where the base layer is obtained from: (a) the reaction product of the condensation product of a polyalkylene glycol having specific mol. weight, a bisphenol-type epoxy resin, a compound containing active H and a polyisocyanate with an epoxy resin and an active H-containing hydrazine derivative in aqueous dispersion, (b) silane coupler, and (c) phosphoric acid or/and hexafluorometallic acid, and the top layer is obtained from epoxy group-containing resins having Mn 6000-20,000, Cr-free corrosion inhibitors, lubricants having mol. weight of <5000 and elec. conductive pigments.

IC ICM C23C0022-07

ICS C23C0022-22; C23C0022-36; C23C0022-42; C23C0028-00

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 55

ST corrosion resistant base coat top coat multilayer coating steel;

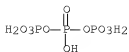
welding property steel coating anticorrosive polyalkylene glycol epoxy resin; hydrazine deriv reaction modified epoxy resin coating steel; automobile panel steel anticorrosive coating polyisocyanate polyoxyalkylene epoxy resin

- IT Coating materials  
(anticorrosive; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT Automobiles  
(bodies; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT Silanes  
RL: MOA (Modifier or additive use); USES (Uses)  
(coupling agents; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT Polyoxyalkylenes, uses  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(epoxy; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT Coupling agents  
(highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT Aminoplasts  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT Epoxy resins, uses  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(polyoxyalkylene-; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT Galvanized steel  
RL: TEM (Technical or engineered material use); USES (Uses)  
(substrate; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT 97-77-8, Tetraethylthiuram disulfide 7631-86-9, Silica, uses 29196-72-3, Aluminum tripolyphosphate 130638-76-5, Aluminum phosphomolybdate  
RL: MOA (Modifier or additive use); USES (Uses)  
(corrosion inhibitor; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT 919-30-2, KBE 903 1760-24-3, KBM 603 2530-93-6, KBM 403 2602-34-9, KBE 403 2897-60-1, KBM 402 3069-29-2, KBM 602  
RL: MOA (Modifier or additive use); USES (Uses)  
(coupling agent; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT 822-06-0, HMDI 4098-71-9, IPDI 9003-08-1, Melamine resin 93919-05-2, Desmodur BL-3175 124671-40-5, Takenate B 870N 174514-92-2, Duranate MF-B 80M

- RL: RCT (Reactant); RACT (Reactant or reagent)  
(crosslinker; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT 7664-38-2, Phosphoric acid, uses 12021-95-3  
14961-83-4, Hexafluorosilicic acid 17439-11-1, Hexafluorotitanic acid  
RL: CAT (Catalyst use); USES (Uses)  
(highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT 67-51-6DP, 3,5-Dimethylpyrazole, reaction products with epoxy resins 25068-38-6DP, Epikote 828, reaction products with pyrazole 25068-38-6P, Epikote 828 507271-32-1P, Bisphenol A-epichlorohydrin-Duranate MFK60X-polyethylene glycol-TDI copolymer 869804-46-6P, 3-Amino-1,2,4-triazole-bisphenol A-epichlorohydrin-Duranate MF-K 60X-polyethylene glycol-TDI copolymer 869804-47-7E, 3-Amino-1,2,4-triazole-Epikote 1256 copolymer  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT 214832-30-1, Epikote 1256  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT 12597-69-2, Steel, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(plated substrate; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT 111-90-0, Diethylene glycol monoethyl ether  
RL: MOA (Modifier or additive use); USES (Uses)  
(temporary blocking agent; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT 7631-86-3, Silica, uses 29196-72-3, Aluminum tripolyphosphate 130634-76-5, Aluminum phosphomolybdate  
RL: MOA (Modifier or additive use); USES (Uses)  
(corrosion inhibitor; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- RN 7631-86-9 HCAPLUS  
CN Silica (CA INDEX NAME)

O=S=O

- RN 29196-72-3 HCAPLUS  
CN Triphosphoric acid, aluminum salt (1:?) (CA INDEX NAME)



●x Al

RN 130638-76-5 HCAPLUS

CN Aluminum molybdenum hydroxide oxide phosphate (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
HO	x	14280-30-9
O4P	x	14265-44-2
Mo	x	7439-98-7
Al	x	7429-90-5

IT 919-39-2, KBE 903 1760-24-3, KBM 603 2530-83-8

, KBM 403 2602-34-8, KBE 403 2897-60-1, KBM 402

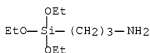
3069-29-2, KBM 602

RL: MOA (Modifier or additive use); USES (Uses)

(coupling agent; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)

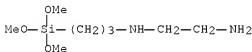
RN 919-30-2 HCAPLUS

CN 1-Propanamine, 3-(triethoxysilyl)- (CA INDEX NAME)



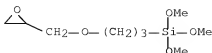
RN 1760-24-3 HCAPLUS

CN 1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]- (CA INDEX NAME)

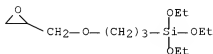


RN 2530-83-8 HCAPLUS

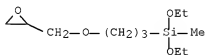
CN Oxirane, 2-[[3-(trimethoxysilyl)propoxy)methyl]- (CA INDEX NAME)



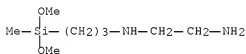
RN 2602-34-8 HCAPLUS  
 CN Oxirane, 2-[[3-(triethoxysilyl)propoxy)methyl]- (CA INDEX NAME)



RN 2897-60-1 HCAPLUS  
 CN Oxirane, 2-[[3-(diethoxymethylsilyl)propoxy)methyl]- (CA INDEX NAME)



RN 3069-29-2 HCAPLUS  
 CN 1,2-Ethanediamine, N1-[3-(dimethoxymethylsilyl)propyl]- (CA INDEX NAME)



IT 7664-38-2, Phosphoric acid, uses 12021-95-3  
 16961-83-4, Hexafluorosilicic acid 17439-11-1,  
 Hexafluorotitanic acid  
 RL: CAT (Catalyst use); USES (Uses)  
 (highly corrosion-resistant compns. for coating non-chromated  
 steel surface without interfering welding ability and their  
 formation)  
 RN 7664-38-2 HCAPLUS  
 CN Phosphoric acid (CA INDEX NAME)



RN 12021-95-3 HCAPLUS  
 CN Zirconate(2-), hexafluoro-, hydrogen (1:2), (OC-6-11)- (CA INDEX NAME)



● 2 H<sup>+</sup>

RN 16961-83-4 HCAPLUS

CN Silicate(2-), hexafluoro-, hydrogen (1:2) (CA INDEX NAME)



● 2 H<sup>+</sup>

RN 17439-11-1 HCAPLUS

CN Titanate(2-), hexafluoro-, hydrogen (1:2), (OC-6-11)- (CA INDEX NAME)



● 2 H<sup>+</sup>

IT 507271-32-1P, Bisphenol A-epichlorohydrin-Duranate

MFK60X-polyethylene glycol-TDI copolymer 869804-46-6P,

3-Amino-1,2,4-triazole-bisphenol A-epichlorohydrin-Duranate MF-K

60X-polyethylene glycol-TDI copolymer 869804-47-7P,

3-Amino-1,2,4-triazole-Epikote 1256 copolymer

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP

(Properties); TEM (Technical or engineered material use); PREP

(Preparation); USES (Uses)

(highly corrosion-resistant compns. for coating non-chromated  
steel surface without interfering welding ability and their  
formation)

RN 507271-32-1 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane,  
1,3-diisocyanatomethylbenzene, Duranate MF-K 60X and  $\alpha$ -hydro- $\omega$ -

hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 199876-59-0

CMF Unspecified

CCI PMS, MAN

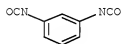
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



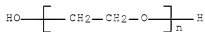
D1=Me

CM 3

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

CCI PMS



CM 4

CRN 106-89-8

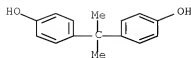
CMF C3 H5 Cl O



CM 5

CRN 80-05-7

CMF C15 H16 O2



RN 869804-46-6 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 1,3-diisocyanatomethylbenzene, Duranate MF-K 60X,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and 1H-1,2,4-triazol-3-amine (CA INDEX NAME)

CM 1

CRN 199876-59-0

CMF Unspecified

CCI PMS, MAN

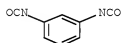
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



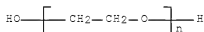
D1- Me

CM 3

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

CCI PMS



CM 4

CRN 106-89-8

CMF C3 H5 Cl O

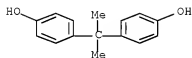




CM 5

CRN 80-05-7

CMF C15 H16 O2



CM 6

CRN 61-82-5

CMF C2 H4 N4



RN 869804-47-7 HCAPLUS

CN 1H-1,2,4-Triazol-3-amine, polymer with Epikote 1256 (CA INDEX NAME)

CM 1

CRN 214832-30-1

CMF Unspecified

CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 61-82-5

CMF C2 H4 N4



IT 12597-69-2, Steel, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(plated substrate; highly corrosion-resistant compns. for coating

non-chromated steel surface without interfering welding  
ability and their formation)

RN 12597-69-2 HCAPLUS

CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L74 ANSWER 2 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2004:1127448 HCAPLUS Full-text

DN 142:58372

TI Highly corrosion-resistant surface-treated steel sheet and  
method for producing same

IN Miyoshi, Tatsuya; Sasaki, Kenichi; Yoshida,  
Naoto; Matsuzaki, Akira; Okai, Kazuhisa;  
Ooshima, Takao; Nakano, Takashi; Murata,  
Masahiro; Tanaka, Syoichi

PA JFE Steel Corporation, Japan; Kansai Paint Co., Ltd.

SO PCT Int. Appl., 122 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004111141	A1	20041223	WO 2004-JP8650	20040614 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	JP 2006002167	A	20060105	JP 2004-173337	20040611 <--
	EP 1634932	A1	20060315	EP 2004-736805	20040614 <--
	R: DE, FR, GB				
	CN 1836016	A	20060920	CN 2004-80023517	20040614 <--
	US 2006141230	A1	20060629	US 2005-559641	20051202 <--
PRAI	JP 2003-171344	A	20030616	<--	
	JP 2004-146334	A	20040517	<--	
	WO 2004-JP8650	W	20040614	<--	

AB A surface-treated steel sheet is disclosed which comprises a zinc-plated steel sheet, a surface treatment film formed on the surface of the zinc-plated steel sheet by applying a surface treatment composition to the steel sheet and drying it, and an upper coating film formed over the surface treatment film by applying a coating composition for the upper coating film over the surface treatment film and drying it. The surface treatment composition contains an aqueous epoxy resin dispersion, a silane coupling agent, and a phosphoric acid and/or a fluorometallic acid. The coating composition for the upper coating film contains a high mol. weight, epoxy group-containing resin having a number-average mol. weight of 6000-20,000.

IC ICM C09D0163-00

ICS C09D0175-00; C23C0028-04

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 55

ST zinc plated steel sheet anticorrosive coating epoxy resin  
dispersion; silane coupling agent epoxy dispersion coating steel

sheet; phosphoric acid epoxy dispersion anticorrosive coating  
 steel sheet; fluorometallic acid epoxy dispersion anticorrosive  
 coating steel sheet

- IT Coating materials  
 (anticorrosive; coatings for manufacture of highly corrosion-resistant  
 surface-treated steel sheets)
- IT Coupling agents  
 (coatings for manufacture of highly corrosion-resistant surface-treated  
 steel sheets)
- IT Polyurethanes, uses  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
 engineered material use); USES (Uses)  
 (coatings for manufacture of highly corrosion-resistant surface-treated  
 steel sheets)
- IT Polyoxalkylenes, uses  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)  
 (epoxy; coatings for manufacture of highly corrosion-resistant  
 surface-treated steel sheets)
- IT Epoxy resins, uses  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)  
 (polyoxalkylene; coatings for manufacture of highly corrosion-resistant  
 surface-treated steel sheets)
- IT Silanes  
 RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or  
 reagent); USES (Uses)  
 (silanes; coatings for manufacture of highly corrosion-resistant  
 surface-treated steel sheets)
- IT Galvanized steel  
 RL: MSC (Miscellaneous)  
 (substrate; coatings for manufacture of highly corrosion-resistant  
 surface-treated steel sheets)
- IT 36830-06-7F, Bisphenol A-diethanolamine-epichlorohydrin copolymer  
 85023-89-6F, Bisphenol A;epichlorohydrin;formaldehyde;melamine  
 copolymer 134291-65-9P, Bisphenol A-epichlorohydrin-Takenate B  
 870N copolymer 164015-80-3P 247223-93-4P  
 507271-32-1P, Bisphenol A-Duranate MFK60X-epichlorohydrin-  
 polyethylene glycol-TDI copolymer 811448-86-9P 811448-87-0P  
 811448-88-1P 811448-89-2P, Epikote 1256-formaldehyde-melamine  
 copolymer  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)  
 (coatings for manufacture of highly corrosion-resistant surface-treated  
 steel sheets)
- IT 7664-38-2, Phosphoric acid, uses 12021-95-3  
 16961-63-4, Hexafluorosilicic acid 17439-11-1,  
 Hexafluorotitanic acid  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (coatings for manufacture of highly corrosion-resistant surface-treated  
 steel sheets)
- IT 168679-90-1, Permarin UC 20 190606-09-8, Takelac W 635 392315-60-5,  
 Superflex 600 443919-87-7, Superflex E 2500 740843-34-9, Ucoat UX 2505  
 745031-19-0, Adeka Bon-Tighter UX 206  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
 engineered material use); USES (Uses)  
 (coatings for manufacture of highly corrosion-resistant surface-treated

steel sheets)

IT 319-30-2, KBE 903 1760-24-3, KBM 603 2530-23-8  
 , KBM 403 2602-34-8, KBE 403 2857-60-1, KBE 402  
 3069-29-2, KBM 602 5089-72-5, KBE 603 1322-56-5  
 , KBM 903  
 RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or  
 reagent); USES (Uses)  
 (coupler; coatings for manufacture of highly corrosion-resistant  
 surface-treated steel sheets)

IT 11149-64-1 12609-49-3 52360-06-2  
 58465-32-0 112964-43-9 142240-64-0  
 208469-25-4  
 RL: MSC (Miscellaneous)  
 (plating on steel; coatings for manufacture of highly  
 corrosion-resistant surface-treated steel sheets)

IT 12597-69-2, Steel, miscellaneous  
 RL: MSC (Miscellaneous)  
 (substrate, Zn alloy-plated; coatings for manufacture of highly  
 corrosion-resistant surface-treated steel sheets)

IT 38830-06-7P, Bisphenol A-diethanolamine-epichlorohydrin copolymer  
 85923-89-8P, Bisphenol A;epichlorohydrin;formaldehyde;melamine  
 copolymer 134291-65-9E, Bisphenol A-epichlorohydrin-Takenate B  
 870N copolymer 184015-80-3P 247223-93-4P  
 507271-32-1P, Bisphenol A-Duranate MFK60X-epichlorohydrin-  
 polyethylene glycol-TDI copolymer 811448-87-0P  
 811448-89-2P, Epikote 1256-formaldehyde-melamine copolymer  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)  
 (coatings for manufacture of highly corrosion-resistant surface-treated  
 steel sheets)

RN 38830-06-7 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-  
 (chloromethyl)oxirane and 2,2'-iminobis[ethanol] (CA INDEX NAME)

CM 1

CRN 111-42-2

CMF C4 H11 N O2



CM 2

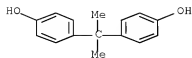
CRN 106-89-8

CMF C3 H5 Cl O



CM 3

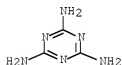
CRN 80-05-7  
CMF C15 H16 O2



RN 85023-89-8 HCAPLUS  
CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)

CM 1

CRN 108-78-1  
CMF C3 H6 N6



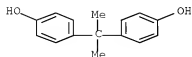
CM 2

CRN 106-89-8  
CMF C3 H5 Cl O



CM 3

CRN 80-05-7  
CMF C15 H16 O2



CM 4

CRN 50-00-0  
CMF C H2 O



RN 134291-65-9 HCAPLUS  
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane and Takenate B 870N (CA INDEX NAME)

CM 1

CRN 124671-40-5  
CMF Unspecified  
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

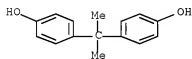
CM 2

CRN 106-89-8  
CMF C3 H5 Cl O



CM 3

CRN 80-05-7  
CMF C15 H16 O2



RN 184015-80-3 HCAPLUS  
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane and Duranate MF-B 80M (CA INDEX NAME)

CM 1

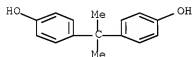
CRN 174514-92-2  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2  
 CRN 106-89-8  
 CMF C3 H5 Cl O

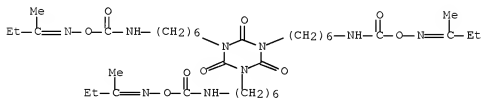


CM 3  
 CRN 80-05-7  
 CMF C15 H16 O2



RN 247223-93-4 HCAPLUS  
 CN 1,3,5-Triazine-2,4,6-(1H,3H,5H)-trione, 1,3,5-tris[6-[[[(1-methylpropylidene)aminooxy]carbonylamino]hexyl]-, polymer with 2-(chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol] (CA INDEX NAME)

CM 1  
 CRN 93919-05-2  
 CMF C36 H63 N9 O9



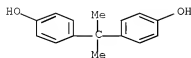
CM 2  
 CRN 106-89-8  
 CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



RN 507271-32-1 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane, 1,3-diisocyanatomethylbenzene, Duranate MF-K 60X and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 199876-59-0

CMF Unspecified

CCI PMS, MAN

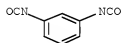
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



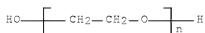
D1- Me

CM 3

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

CCI PMS



CM 4

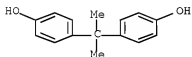


CRN 106-89-8  
CMF C3 H5 Cl O



CM 5

CRN 80-05-7  
CMF C15 H16 O2



RN 811448-87-0 HCAPLUS  
CN 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris[6-[[[(1-methylpropylidene)amino]oxy]carbonyl]amino]hexyl]-, polymer with Epikote 1256 (CA INDEX NAME)

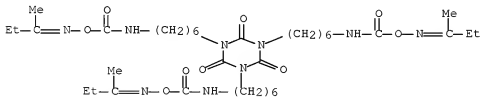
CM 1

CRN 214832-30-1  
CMF Unspecified  
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 93919-05-2  
CMF C36 H63 N9 O9



RN 811448-89-2 HCAPLUS  
CN Formaldehyde, polymer with Epikote 1256 and 1,3,5-triazine-2,4,6-triamine (9CI) (CA INDEX NAME)

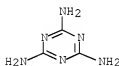
CM 1

CRN 214832-30-1

CMF Unspecified  
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2  
CRN 108-78-1  
CMF C3 H6 N6



CM 3  
CRN 50-00-0  
CMF C H2 O



IT 7664-38-2, Phosphoric acid, uses 12021-95-3  
16961-83-4, Hexafluorosilicic acid 17439-11-1,  
Hexafluorotitanic acid  
RL: MOA (Modifier or additive use); USES (Uses)  
(coatings for manufacture of highly corrosion-resistant surface-treated  
steel sheets)  
RN 7664-38-2 HCAPLUS  
CN Phosphoric acid (CA INDEX NAME)



RN 12021-95-3 HCAPLUS  
CN Zirconate(2-), hexafluoro-, hydrogen (1:2), (OC-6-11)- (CA INDEX NAME)



● 2 H<sup>+</sup>

RN 16961-83-4 HCAPLUS

CN Silicate(2-), hexafluoro-, hydrogen (1:2) (CA INDEX NAME)



● 2 H<sup>+</sup>

RN 17439-11-1 HCAPLUS

CN Titanate(2-), hexafluoro-, hydrogen (1:2), (OC-6-11)- (CA INDEX NAME)



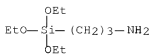
● 2 H<sup>+</sup>

IT 919-30-2, KBE 903 1760-24-3, KBM 603 2530-83-8  
 , KBM 403 0602-34-8, KBE 403 2897-60-1, KBE 402  
 3969-29-2, KBM 602 5089-72-5, KBE 603 13822-56-5  
 , KBM 903

RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
 (coupler; coatings for manufacture of highly corrosion-resistant surface-treated steel sheets)

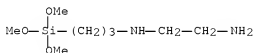
RN 919-30-2 HCAPLUS

CN 1-Propanamine, 3-(triethoxysilyl)- (CA INDEX NAME)



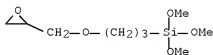
RN 1760-24-3 HCAPLUS

CN 1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]- (CA INDEX NAME)



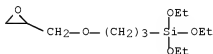
RN 2530-83-8 HCAPLUS

CN Oxirane, 2-[[3-(trimethoxysilyl)propoxy]methyl]- (CA INDEX NAME)



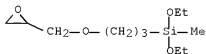
RN 2602-34-8 HCAPLUS

CN Oxirane, 2-[[3-(triethoxysilyl)propoxy]methyl]- (CA INDEX NAME)



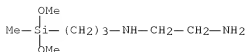
RN 2897-60-1 HCAPLUS

CN Oxirane, 2-[[3-(diethoxymethylsilyl)propoxy]methyl]- (CA INDEX NAME)



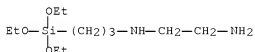
RN 3069-29-2 HCAPLUS

CN 1,2-Ethanediamine, N1-[3-(dimethoxymethylsilyl)propyl]- (CA INDEX NAME)



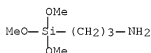
RN 5089-72-5 HCAPLUS

CN 1,2-Ethanediamine, N1-[3-(triethoxysilyl)propyl]- (CA INDEX NAME)



RN 13822-56-5 HCAPLUS

CN 1-Propanamine, 3-(trimethoxysilyl)- (CA INDEX NAME)



IT 11149-84-1 12609-49-3 52360-06-2  
 58465-32-0 112964-43-9 142240-64-0  
 208469-25-4

RL: MSC (Miscellaneous)

(plating on steel; coatings for manufacture of highly  
 corrosion-resistant surface-treated steel sheets)

RN 11149-84-1 HCAPLUS

CN Aluminum alloy, nonbase, Al,Zn (CA INDEX NAME)

Component	Component Registry Number
=====+=====	

Al	7429-90-5
Zn	7440-66-6

RN 12609-49-3 HCAPLUS

CN Aluminum alloy, base, Al 94,Si 6 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====		
Al	94	7429-90-5
Si	6	7440-21-3

RN 52360-06-2 HCAPLUS

CN Zinc alloy, base, Zn 88,Ni 12 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====		

Zn	88	7440-66-6
Ni	12	7440-02-0

RN 58465-32-0 HCAPLUS

CN Zinc alloy, base, Zn 90,Fe 10 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	90	7440-66-6
Fe	10	7439-89-6

RN 112964-43-9 HCAPLUS

CN Zinc alloy, base, Zn 100,Mg 0.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	100	7440-66-6
Mg	0.5	7439-95-4

RN 142240-64-0 HCAPLUS

CN Zinc alloy, base, Zn 94,Al 5,Mg 0.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	94	7440-66-6
Al	5	7429-90-5
Mg	0.5	7439-95-4

RN 208469-25-4 HCAPLUS

CN Zinc alloy, base, Zn 91,Al 6,Mg 3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	91	7440-66-6
Al	6	7429-90-5
Mg	3	7439-95-4

IT 12597-69-2, Steel, miscellaneous

RL: MSC (Miscellaneous)

(substrate, Zn alloy-plated; coatings for manufacture of highly corrosion-resistant surface-treated steel sheets)

RN 12597-69-2 HCAPLUS

CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RETABLE

Referenced Author (RAU)	Year   VOL   PG   Referenced Work (RWK)	Referenced File
	(RPY)   (RVL)   (RPG)	
Kansai Paint Co Ltd	2001       JJP 2001239517 A	HCAPLUS
Kansai Paint Co Ltd	2003       JJP 200334713 A	
Nkk Corp	2001       JJP 2001335965 A	HCAPLUS
Nkk Corp	2002       IEP 129453 A1	
Nkk Corp	2002       IWO 200192602 A1	
Nkk Corp	2002       JJP 200253979 A	

L74 ANSWER 3 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2004:474664 HCAPLUS Full-text  
 DN 141:25130  
 TI Environmentally friendly corrosion-resistant pre-coated steel  
 sheet and its manufacture  
 IN Miyosbi, Tatsuya; Matsuzaki, Akira; Sasaki,  
 Kenichi; Okai, Kazuhisa; Sakamoto, Takuya; Yoshimi,  
 Naoto; Yamashita, Masaaki; Marata, Masahiro  
 PA JFE Steel Corp., Japan; Kansai Paint Co., Ltd.  
 SO Jpn. Kokai Tokkyo Koho, 63 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004162097	A	20040610	JP 2002-327420	20021111 <--
PRAI	JP 2002-327420		20021111	<--	
AB	<p>The Cr-free pre-coated sheet for automobiles, household elec. appliances, buildings, etc., has (1) a galvanized or Al-coated steel substrate, (2) a 0.01-1.0 <math>\mu\text{m}</math>-thick pre-coating film obtained by applying a composition containing (a) aqueous epoxy resin dispersions obtained by reacting polyalkylene glycol-modified epoxy resins [prepared by reacting polyalkylene glycols having number-average mol. weight 400-20,000 with bisphenol epoxy resins, active H-containing compds., and polyisocyanates] with other epoxy resins, active H-containing hydrazine derivs., and optionally other active H-containing compds. and dispersing the resulting resins in water 100 (as solid), (b) silane coupling agents 1-300, and (c) H<sub>3</sub>PO<sub>4</sub> and/or hexafluorometallic acids 0.1-80 parts and drying, and (3) a 0.5-2.0 <math>\mu\text{m}</math>-thick upper coating film containing reaction products of film-forming organic resins with active H-containing compds. including active H-containing hydrazine derivs. Optionally, the substrate surface has a P-, Zn- and/or Al-, and O-containing amorphous compound layer under the pre-coating film. In manufacture of the pre-coated sheet, the pre-coating composition and the upper coating composition applied are dried at 30-150°, resp. Thus, EP 1004 (epoxy resin) was reacted with polyethylene glycol-TDI-Epikote 834X90 (epoxy resin) copolymer blocked with diethylene glycol Et ether in propylene glycol monomethyl ether and 3-amino-1,2,4-triazole, mixed with propylene glycol monobutyl ether, MF-K60X (isocyanate crosslinker), and a catalyst to give an aqueous epoxy resin dispersion, which was mixed with KBE 903 (<math>\gamma</math>-aminopropyltriethoxysilane) and H<sub>3</sub>PO<sub>4</sub> and applied on an electrogalvanized steel sheet. Then, a topcoat composition containing a reaction product of EP 828 (epoxy resin), bisphenol A, 3,5-dimethylpyrazole, and dibutylamine, Takenate B 870N (blocked IPDI crosslinker), a catalyst, and a Ca ion-exchanged silica corrosion inhibitor was applied on the primed sheet to give a test piece showing high corrosion resistance and weldability.</p>				
IC	ICM C23C0028-00				
	ICS B32B0015-08; C23C0022-00; C23C0022-07; C23C0022-18; C23C0022-20; C23C0022-34				
CC	42-9 (Coatings, Inks, and Related Products)				
	Section cross-reference(s): 55				
ST	<p>galvanized steel epoxy resin primer topcoat anticorrosive;          aluminum coated steel epoxy resin primer topcoat anticorrosive;          corrosion resistance modified epoxy resin coating steel sheet;          polyalkylene glycol modified epoxy resin primer steel; epoxy          resin hydrazine deriv primer steel; silane coupling agent epoxy          resin primer steel; phosphoric acid epoxy resin primer          steel; hexafluorometallic acid epoxy resin primer steel;          resin active hydrogen hydrazine deriv product topcoat steel</p>				

- IT Amorphous materials  
(P-, Zn- and/or Al-, and O-containing, on substrate; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)
- IT Coating materials  
(anticorrosive; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)
- IT Silanes  
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
(coupling agent in primer; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)
- IT Aminoplasts  
RL: MOA (Modifier or additive use); RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)  
(crosslinker in topcoat; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)
- IT Galvanized steel  
RL: TEM (Technical or engineered material use); USES (Uses)  
(electrogalvanized, substrate; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)
- IT Polyurethanes, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(epoxy-polyoxyalkylene-, primer; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)
- IT Polyoxyalkylenes, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(epoxy-polyurethane-, primer; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)
- IT Galvanized steel  
RL: TEM (Technical or engineered material use); USES (Uses)  
(hot-dip, substrate; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)
- IT Fluoropolymers, uses  
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
(lubricant, topcoat containing; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)
- IT Corrosion inhibitors  
(manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)
- IT Epoxy resins, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polyoxyalkylene-polyurethane-, primer; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)
- IT Coupling agents  
(silanes, primer containing; manufacture of Cr-free corrosion-resistant primary



- and secondary resin coating layers on galvanized or Al-coated steel sheet)
- IT Lubricants  
(solid, topcoat containing; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)
- IT Phosphates, uses  
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
(water-soluble, primer containing; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)
- IT 9002-88-4  
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
(Ceridust 3620, Luvax 1151, lubricant, topcoat containing; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)
- IT 12609-49-3 52308-11-9 52360-06-2  
58465-32-0 112964-43-9 142240-64-0  
298469-25-4  
RL: TEM (Technical or engineered material use); USES (Uses)  
(coating on steel; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)
- IT 7631-86-9, Fumed silica, uses  
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
(colloidal, corrosion inhibitor in coatings; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)
- IT 97-77-8, Tetraethylthiuram disulfide 7440-70-2D, Calcium, silica ion-exchanged with, uses 7631-86-9D, Silica, calcium ion-exchanged, uses 13939-25-8, Aluminum dihydrogentriphosphate 130638-76-5, Aluminum phosphomolybdate  
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
(corrosion inhibitor in coatings; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)
- IT 919-30-2, KBE 903 1760-24-3, KBM 603 2530-83-8  
, KBM 403 2602-34-8, KBE 403 2897-60-1, KBE 402 3069-29-2, KBM 602 5089-72-5, KBE 603 13022-56-5  
, KBM 903  
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
(coupling agent in primer; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)
- IT 822-06-0, HMDI 4098-71-9, IPDI 9003-08-1, Cymel 325 93919-05-2, Desmodur BL 3175 124365-39-5, Takenate B 870 174514-92-2, Duranate MF B80M  
RL: MOA (Modifier or additive use); RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)  
(crosslinker in topcoat; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)

IT 9002-84-0, MP 1100  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
 (lubricant, topcoat containing; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)

IT 12597-69-2, Steel, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)

IT 67-51-6DP, 3,5-Dimethylpyrazole, reaction products with epoxy resins and active H-containing compds. 80-05-7DP, Bisphenol A, reaction products with epoxy resins and active H-containing compds. 111-92-2DP, Dibutylamine, reaction products with epoxy resins and active H-containing compds. 3179-31-5DP, 3-Mercapto-1,2,4-triazole, reaction products with epoxy resins and isocyanates 4098-71-9DP, IPDI, reaction products with epoxy resins and mercaptotriazole 25068-38-6DP, EP 828, reaction products with active H-containing compds.  
 RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
 (polyisocyanate- or melamine resin-crosslinked, topcoat; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)

IT 61-82-5DP, 3-Amino-1,2,4-triazole, reaction products with epoxy resins  
 RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
 (polyisocyanate-crosslinked, topcoat; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)

IT 7664-38-2, Phosphoric acid, uses 7784-30-7, Aluminum phosphate 10043-83-1, Magnesium phosphate 10124-54-6, Manganese phosphate 10381-36-9, Nickel phosphate 12021-95-3 16961-83-4, Hexafluorosilicic acid 17439-11-1, Hexafluorotitanic acid  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
 (primer containing; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)

IT 709373-18-8P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (primer; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)

IT 12609-49-3 52309-11-9 52360-06-2 58465-32-0 112964-43-9 142240-64-0 208469-25-4  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (coating on steel; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)

RN 12609-49-3 HCAPLUS  
 CN Aluminum alloy, base, Al 94, Si 6 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Al	94	7429-90-5

Si 6 7440-21-3

RN 52308-11-9 HCAPLUS

CN Aluminum alloy, base, Al 55,Zn 45 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	55	7429-90-5
Zn	45	7440-66-6

RN 52360-06-2 HCAPLUS

CN Zinc alloy, base, Zn 88,Ni 12 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	88	7440-66-6
Ni	12	7440-02-0

RN 58465-32-0 HCAPLUS

CN Zinc alloy, base, Zn 90,Fe 10 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	90	7440-66-6
Fe	10	7439-89-6

RN 112964-43-9 HCAPLUS

CN Zinc alloy, base, Zn 100,Mg 0.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	100	7440-66-6
Mg	0.5	7439-95-4

RN 142240-64-0 HCAPLUS

CN Zinc alloy, base, Zn 94,Al 5,Mg 0.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	94	7440-66-6
Al	5	7429-90-5
Mg	0.5	7439-95-4

RN 208469-25-4 HCAPLUS

CN Zinc alloy, base, Zn 91,Al 6,Mg 3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	91	7440-66-6
Al	6	7429-90-5
Mg	3	7439-95-4

IT 7631-86-9, Fumed silica, uses

RL: MOA (Modifier or additive use); TEM (Technical or engineered material)

use); USES (Uses)

(colloidal, corrosion inhibitor in coatings; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)

RN 7631-86-9 HCAPLUS

CN Silica (CA INDEX NAME)



IT 7631-86-9D, Silica, calcium ion-exchanged, uses 13939-25-8

, Aluminum dihydrogentriphosphate 130638-76-5, Aluminum phosphomolybdate

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(corrosion inhibitor in coatings; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)

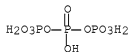
RN 7631-86-9 HCAPLUS

CN Silica (CA INDEX NAME)



RN 13939-25-8 HCAPLUS

CN Triphosphoric acid, aluminum salt (1:1) (CA INDEX NAME)



● Al

RN 130638-76-5 HCAPLUS

CN Aluminum molybdenum hydroxide oxide phosphate (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
HO	x	14280-30-9
O4P	x	14265-44-2
Mo	x	7439-98-7
Al	x	7429-90-5

IT 919-30-2, KBE 903 1760-24-3, KBM 603 2530-83-8

, KBM 403 2602-34-8, KBE 403 2897-68-1, KBE 402

3069-29-2, KBM 602 5089-72-5, KBE 603 13622-56-5

, KBM 903

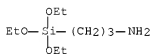
RL: MOA (Modifier or additive use); TEM (Technical or engineered material

use); USES (Uses)

(coupling agent in primer; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)

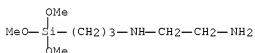
RN 919-30-2 HCAPLUS

CN 1-Propanamine, 3-(triethoxysilyl)- (CA INDEX NAME)



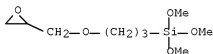
RN 1760-24-3 HCAPLUS

CN 1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]- (CA INDEX NAME)



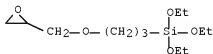
RN 2530-83-8 HCAPLUS

CN Oxirane, 2-[[3-(trimethoxysilyl)propoxy]methyl]- (CA INDEX NAME)



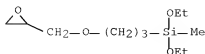
RN 2602-34-8 HCAPLUS

CN Oxirane, 2-[[3-(triethoxysilyl)propoxy]methyl]- (CA INDEX NAME)

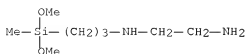


RN 2897-60-1 HCAPLUS

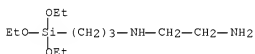
CN Oxirane, 2-[[3-(diethoxymethylsilyl)propoxy]methyl]- (CA INDEX NAME)



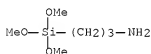
RN 3069-29-2 HCAPLUS  
 CN 1,2-Ethanediamine, N1-[3-(dimethoxymethylsilyl)propyl]- (CA INDEX NAME)



RN 5089-72-5 HCAPLUS  
 CN 1,2-Ethanediamine, N1-[3-(triethoxysilyl)propyl]- (CA INDEX NAME)



RN 13822-56-5 HCAPLUS  
 CN 1-Propanamine, 3-(trimethoxysilyl)- (CA INDEX NAME)



IT 12597-69-2, Steel, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (manufacture of Cr-free corrosion-resistant primary and secondary resin  
 coating layers on galvanized or Al-coated steel sheet)  
 RN 12597-69-2 HCAPLUS  
 CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 7664-38-2, Phosphoric acid, uses 7784-30-7, Aluminum  
 phosphate 12021-95-3 16961-83-4, Hexafluorosilicic  
 acid 17439-11-1, Hexafluorotitanic acid  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material  
 use); USES (Uses)  
 (primer containing; manufacture of Cr-free corrosion-resistant primary and  
 secondary resin coating layers on galvanized or Al-coated steel  
 sheet)  
 RN 7664-38-2 HCAPLUS  
 CN Phosphoric acid (CA INDEX NAME)



RN 7784-30-7 HCAPLUS

CN Phosphoric acid, aluminum salt (1:1) (CA INDEX NAME)



● A1

RN 12021-95-3 HCAPLUS

CN Zirconate(2-), hexafluoro-, hydrogen (1:2), (OC-6-11)- (CA INDEX NAME)

● 2 H<sup>+</sup>

RN 16961-83-4 HCAPLUS

CN Silicate(2-), hexafluoro-, hydrogen (1:2) (CA INDEX NAME)

● 2 H<sup>+</sup>

RN 17439-11-1 HCAPLUS

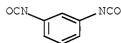
CN Titanate(2-), hexafluoro-, hydrogen (1:2), (OC-6-11)- (CA INDEX NAME)



IT 700373-16-8P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (primer; manufacture of Cr-free corrosion-resistant primary and secondary resin coating layers on galvanized or Al-coated steel sheet)  
 RN 700373-16-8 HCAPLUS  
 CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane, 1,3-diisocyanatomethylbenzene,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl), MFK 60X and 1H-1,2,4-triazol-3-amine (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 326588-96-9  
 CMF Unspecified  
 CCI PMS, MAN

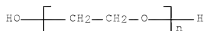
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2  
 CRN 26471-62-5  
 CMF C9 H6 N2 O2  
 CCI IDS



D1- Me

CM 3  
 CRN 25322-68-3  
 CMF (C2 H4 O)<sub>n</sub> H2 O  
 CCI PMS

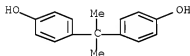




CM 4  
 CRN 106-89-8  
 CMF C3 H5 Cl O



CM 5  
 CRN 80-05-7  
 CMF C15 H16 O2



CM 6  
 CRN 61-82-5  
 CMF C2 H4 N4



L74 ANSWER 4 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:582804 HCAPLUS [Full-text](#)

DN 139:151170

TI Anticorrosive coating of non-chromated metal tube surface and method for pretreatment of the surface

IN Yamamoto, Masato; Kutsuma, Shuichi; Urushima, Hideto; Akui, Jun

PA Kansai Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003213456	A	20030730	JP 2002-13681	20020123 <--
PRAI	JP 2002-13681		20020123	<--	

AB In the method, metal tube surface is pretreated prior to covering with resin layers where the pretreatment is derived from a mixture of (A) aqueous solution containing the reaction products of hydrolyzable Ti compound or/and

its lower condensate or/and Ti hydroxide or/and its lower condensate with H2O2, and (B) P compds., FH, metal halides or/and salts, Si halides or/and salts or/and organic acid or/and its salts. Thus, dropping a 1:9 NH3 water into 500 mL solution made from 5 mL 60% aqueous solution of TiCl4 and water, washing the resulting precipitated Ti hydroxide with water, and mixing with 10 mL a 30% H2O2 solution gave a semi-transparent yellow liquid of 70 mL volume. Dipping a degreased Zn-plated steel plate in a solution containing the liquid 50, 10% orthophosphoric acid 5 and water 45 parts at 30° for 30 s, baking at 160° for 10 min, spray coating the pretreated surface with an epoxy resin, baking and coating with a vinylidene fluoride resin layer gave a finished tube with good salt-spray corrosion test resistance.

- IC ICM C23C0028-00  
ICS B05D0007-14; B32B0001-08; C23C0022-07; C23C0022-34; C23C0022-46;  
C23C0022-53; F16L0009-14
- CC 42-10 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 55
- IT Galvanized steel  
RL: TEM (Technical or engineered material use); USES (Uses)  
(tubes; hydrolyzable titanium compds. for pretreatment of metal tubes prior to multilayer anticorrosive coating and method for pretreatment)
- IT 37346-11-5  
RL: TEM (Technical or engineered material use); USES (Uses)  
(plating on steel for tubes; hydrolyzable titanium compds. for pretreatment of metal tubes prior to multilayer anticorrosive coating and method for pretreatment)
- IT 79-14-1, Glycolic acid, uses 7664-38-2, Orthophosphoric acid, uses 7664-39-3, Hydrofluoric acid, uses 7783-64-4, Zirconium fluoride 10343-62-1, Metaphosphoric acid 51142-88-2, Titanium fluoride  
RL: TEM (Technical or engineered material use); USES (Uses)  
(pretreatment with titanium compds.; hydrolyzable titanium compds. for pretreatment of metal tubes prior to multilayer anticorrosive coating and method for pretreatment)
- IT 85023-83-8, Bisphenol A-epichlorohydrin-formaldehyde-melamine copolymer  
RL: TEM (Technical or engineered material use); USES (Uses)  
(surface under coating; hydrolyzable titanium compds. for pretreatment of metal tubes prior to multilayer anticorrosive coating and method for pretreatment)
- IT 12597-69-2, Steel, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(tubes; hydrolyzable titanium compds. for pretreatment of metal tubes prior to multilayer anticorrosive coating and method for pretreatment)
- IT 37346-11-5  
RL: TEM (Technical or engineered material use); USES (Uses)  
(plating on steel for tubes; hydrolyzable titanium compds. for pretreatment of metal tubes prior to multilayer anticorrosive coating and method for pretreatment)
- RN 37346-11-5 HCAPLUS
- CN Nickel alloy, nonbase, Ni,Zn (CA INDEX NAME)

Component	Component Registry Number
Ni	7440-02-0
Zn	7440-66-6

- IT 7664-38-2, Orthophosphoric acid, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(pretreatment with titanium compds.; hydrolyzable titanium compds. for pretreatment of metal tubes prior to multilayer anticorrosive coating

and method for pretreatment)

RN 7664-38-2 HCAPLUS

CN Phosphoric acid (CA INDEX NAME)



IT 85023-89-8, Bisphenol A-epichlorohydrin-formaldehyde-melamine copolymer

RL: TEM (Technical or engineered material use); USES (Uses)  
(surface under coating; hydrolyzable titanium compds. for pretreatment of metal tubes prior to multilayer anticorrosive coating and method for pretreatment)

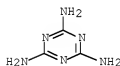
RN 85023-89-8 HCAPLUS

CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)

CM 1

CRN 108-78-1

CMF C3 H6 N6



CM 2

CRN 106-89-8

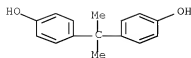
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



CM 4  
 CRN 50-00-0  
 CMF C H2 O

H<sub>2</sub>C=O

IT 12597-69-2, Steel, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (tubes; hydrolyzable titanium compds. for pretreatment of metal tubes  
 prior to multilayer anticorrosive coating and method for pretreatment)  
 RN 12597-69-2 HCAPLUS  
 CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L74 ANSWER 5 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:274972 HCAPLUS Full-text

DN 138:289090

TI Anticorrosive precoated steel sheets and manufacture thereof

IN Okei, Kazuhisa; Matsuzaki, Akira; Yoshimi,  
 Naoto; Kubota, Takahiro; Yamashita, Masaaki; Noro, Hisato; Nakamichi,  
 Jiro; Sato, Kaoru; Matsuki, Hiroyasu; Nishida, Reiji; Murata,  
 Masahiro

PA NKK Corp., Japan; Kansai Paint Co., Ltd.; JFE Steel Corp.

SO Jpn. Kokai Tokkyo Koho, 36 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003105554	A	20030409	JP 2002-214579	20020723 <--
	JP 3665046	B2	20050629		
	WO 2004009870	A1	20040129	WO 2003-JP1531	20030214 <--
	W: CN, KR, US				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR				
EP	1524332	A1	20050420	EP 2003-705145	20030214 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, CY, TR, BG, CZ, EE, HU, SK				
CN	1671885	A	20050921	CN 2003-817687	20030214 <--
TW	259216	B	20060801	TW 2003-92103114	20030214 <--
US	2005147832	A1	20050707	US 2005-515303	20050124 <--
JP	2005206947	A	20050804	JP 2005-29983	20050207 <--
PRAI	JP 2001-220912	A	20010723	<--	
	JP 2002-214579	A	20020723	<--	
	WO 2003-JP1531	W	20030214	<--	

- AB Chromium-free coating compns. containing (a) water-dispersible and/or water-soluble resins which are reaction products of epoxy-containing resins and active H-containing compds. comprising hydrazine derivs., (b) silane coupling agents, and (c) H3PO4 and/or hexafluorometal acids (e.g., H2SiF6, H2TiF6) are applied on galvanized steel or aluminum-plated steel sheets to give a monolayer anticorrosive coating having a thickness of 0.02-5  $\mu$ m.
- IC ICM C23C0022-36  
ICS C23C0022-00; C23C0022-42; C23C0028-00
- CC 42-9 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 55
- ST hydrazine epoxy resin reaction product anticorrosive coating steel sheet; silane coupling agent anticorrosive coating steel; hexafluoro metal acid anticorrosive coating steel
- IT Coating materials  
(anticorrosive, water-thinned; chromium-free anticorrosive coatings for plated steel sheets)
- IT Corrosion inhibitors  
(chromium-free anticorrosive coatings for plated steel sheets)
- IT Galvanized steel  
RL: MSC (Miscellaneous)  
(chromium-free anticorrosive coatings for plated steel sheets)
- IT Polyurethanes, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(epoxy-polyoxyalkylene-, reaction products with hydrazine derivs.; chromium-free anticorrosive coatings for plated steel sheets)
- IT Polyoxyalkylenes, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(epoxy-polyurethane-, reaction products with hydrazine derivs.; chromium-free anticorrosive coatings for plated steel sheets)
- IT Epoxy resins, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polyoxyalkylene-polyurethane-, reaction products with hydrazine derivs.; chromium-free anticorrosive coatings for plated steel sheets)
- IT Epoxy resins, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(reaction products, with hydrazine derivs.; chromium-free anticorrosive coatings for plated steel sheets)
- IT Coupling agents  
(silane; chromium-free anticorrosive coatings for plated steel sheets)
- IT 12597-69-2, Steel, miscellaneous  
RL: MSC (Miscellaneous)  
(aluminum-plated; chromium-free anticorrosive coatings for plated steel sheets)
- IT 61-82-5DP, 3-Amino-1,2,4-triazole, reaction products with epoxy resins 507271-32-1EP, Epikote 834X90-Duranate MF-K 60X-polyethylene glycol-TDI copolymer, reaction products with 3-amino-1,2,4-triazole  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(chromium-free anticorrosive coatings for plated steel sheets)
- IT 302-01-2D, Hydrazine, derivs., reaction products with epoxy resins 7564-38-2, Phosphoric acid, uses 7784-39-7, Aluminum

phosphate 10043-83-1, Magnesium phosphate 10124-54-6, Manganese phosphate 10381-36-9, Nickel phosphate 12021-95-3  
16961-83-4, Hexafluorosilicic acid 17439-11-1,  
Hexafluorotitanic acid

RL: TEM (Technical or engineered material use); USES (Uses)  
(chromium-free anticorrosive coatings for plated steel sheets)

IT 7631-86-9, Fumed silica, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(colloidal, corrosion inhibitor; chromium-free anticorrosive coatings for plated steel sheets)

IT 97-77-8, Tetraethylthiram disulfide 13939-25-6, Aluminum dihydrogen triphosphate 130638-76-5, Aluminum phosphomolybdate

RL: TEM (Technical or engineered material use); USES (Uses)  
(corrosion inhibitor; chromium-free anticorrosive coatings for plated steel sheets)

IT 919-30-2, KBE 903 1760-24-3, KBM 603 2530-83-8  
, KBM 403 2602-34-8, KBE 403 2897-60-1, KBE 402  
3063-29-2, KBM 602 5089-72-5, KBE 603 13822-56-5  
, KBM 903

RL: TEM (Technical or engineered material use); USES (Uses)  
(coupling agents; chromium-free anticorrosive coatings for plated steel sheets)

IT 12597-69-2, Steel, miscellaneous

RL: MSC (Miscellaneous)  
(aluminum-plated; chromium-free anticorrosive coatings for plated steel sheets)

RN 12597-69-2 HCAPLUS

CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 507271-32-1DP, Epikote 834X90-Duranate MF-K 60X-polyethylene

glycol-TDI copolymer, reaction products with 3-amino-1,2,4-triazole  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(chromium-free anticorrosive coatings for plated steel sheets)

RN 507271-32-1 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane, 1,3-diisocyanatomethylbenzene, Duranate MF-K 60X and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 199876-59-0

CMF Unspecified

CCI PMS, MAN

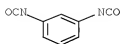
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



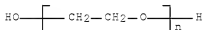
D1-Me

CM 3

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

CCI PMS



CM 4

CRN 106-89-8

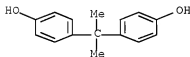
CMF C3 H5 Cl O



CM 5

CRN 80-05-7

CMF C15 H16 O2



IT 7664-38-2, Phosphoric acid, uses 7764-30-7, Aluminum phosphate 12021-95-3 16961-83-4, Hexafluorosilicic acid 17439-11-1, Hexafluorotitanic acid  
 RL: TEM (Technical or engineered material use); USES (Uses) (chromium-free anticorrosive coatings for plated steel sheets)  
 RN 7664-38-2 HCAPLUS  
 CN Phosphoric acid (CA INDEX NAME)



RN 7784-30-7 HCAPLUS

CN Phosphoric acid, aluminum salt (1:1) (CA INDEX NAME)



● Al

RN 12021-95-3 HCAPLUS

CN Zirconate(2-), hexafluoro-, hydrogen (1:2), (OC-6-11)- (CA INDEX NAME)

● 2 H<sup>+</sup>

RN 16961-83-4 HCAPLUS

CN Silicate(2-), hexafluoro-, hydrogen (1:2) (CA INDEX NAME)

● 2 H<sup>+</sup>

RN 17439-11-1 HCAPLUS

CN Titanate(2-), hexafluoro-, hydrogen (1:2), (OC-6-11)- (CA INDEX NAME)



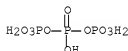


● 2 H<sup>+</sup>

IT 7631-86-9, Fumed silica, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (colloidal, corrosion inhibitor; chromium-free anticorrosive coatings  
 for plated steel sheets)  
 RN 7631-86-9 HCAPLUS  
 CN Silica (CA INDEX NAME)



IT 13939-25-8, Aluminum dihydrogen triphosphate 130638-76-5  
 , Aluminum phosphomolybdate  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (corrosion inhibitor; chromium-free anticorrosive coatings for plated  
 steel sheets)  
 RN 13939-25-8 HCAPLUS  
 CN Triphosphoric acid, aluminum salt (1:1) (CA INDEX NAME)



● Al

RN 130638-76-5 HCAPLUS  
 CN Aluminum molybdenum hydroxide oxide phosphate (CA INDEX NAME)

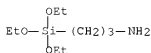
Component	Ratio	Component Registry Number
O	x	17778-80-2
HO	x	14280-30-9
O4P	x	14265-44-2
Mo	x	7439-98-7
Al	x	7429-90-5

IT 919-20-2, KBE 903 1760-24-3, KBM 603 2530-83-8  
 , KBM 403 2602-34-8, KBE 403 2397-60-1, KBE 402  
 3069-29-2, KBM 602 5069-72-5, KBE 603 13822-56-5  
 , KBM 903  
 RL: TEM (Technical or engineered material use); USES (Uses)

(coupling agents; chromium-free anticorrosive coatings for plated steel sheets)

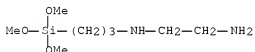
RN 919-30-2 HCAPLUS

CN 1-Propanamine, 3-(triethoxysilyl)- (CA INDEX NAME)



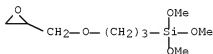
RN 1760-24-3 HCAPLUS

CN 1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]- (CA INDEX NAME)



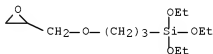
RN 2530-83-8 HCAPLUS

CN Oxirane, 2-[[3-(trimethoxysilyl)propoxy]methyl]- (CA INDEX NAME)



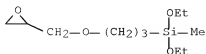
RN 2602-34-8 HCAPLUS

CN Oxirane, 2-[[3-(triethoxysilyl)propoxy]methyl]- (CA INDEX NAME)



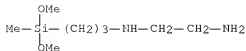
RN 2897-60-1 HCAPLUS

CN Oxirane, 2-[[3-(diethoxymethylsilyl)propoxy]methyl]- (CA INDEX NAME)



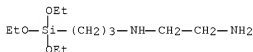
RN 3069-29-2 HCAPLUS

CN 1,2-Ethanediamine, N1-[3-(dimethoxymethylsilyl)propyl]- (CA INDEX NAME)



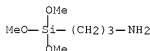
RN 5089-72-5 HCAPLUS

CN 1,2-Ethanediamine, N1-[3-(triethoxysilyl)propyl]- (CA INDEX NAME)



RN 13822-56-5 HCAPLUS

CN 1-Propanamine, 3-(trimethoxysilyl)- (CA INDEX NAME)



L74 ANSWER 6 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:595078 HCAPLUS [Full-text](#)

DN 137:143588

TI Manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer

IN Ooi, Toshihiko; Yamaji, Takafumi; Yoshida, Keiji; Tanaka, Yuichiro; Inagaki, Junichi; Yamashita, Masaaki; Majima, Yasuhiro; Ishida, Nobuyuki; Fukushima, Yuichi; Inoue, Norio; Hori, Shinji

PA NKK Corp., Japan

SO PCT Int. Appl., 133 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	WO 2002061164	A1	20020808	WO 2002-JP690	20020130 <--
	W: AU, CN, KR, US				
	JP 2002226960	A	20020814	JP 2001-26182	20010201 <--
	JP 3749440	B2	20060301		
	JP 2002275645	A	20020925	JP 2001-82423	20010322 <--
	JP 3811363	B2	20060816		
	JP 2002275646	A	20020925	JP 2001-82445	20010322 <--
	JP 3811364	B2	20060816		
	JP 2003213395	A	20030730	JP 2002-9960	20020118 <--
	JP 3749487	B2	20060301		

	JP 2002302750	A	20021018	JP 2002-15889	20020124 <--
	JP 3507823	B2	20040315		
	JP 2002302777	A	20021018	JP 2002-15908	20020124 <--
	JP 3654520	B2	20050602		
	AU 2002230097	A1	20020812	AU 2002-230097	20020130 <--
	TW 575643	B	20040211	TW 2002-91101646	20020131 <--
	US 6610422	B1	20030826	US 2002-255374	20020926 <--
	JP 2006207033	A	20060810	JP 2006-118589	20060422 <--
PRAI	JP 2001-24861	A	20010131	<--	
	JP 2001-24869	A	20010131	<--	
	JP 2001-26182	A	20010201	<--	
	JP 2001-82423	A	20010322	<--	
	JP 2001-82445	A	20010322	<--	
	JP 2002-9960	A	20020118	<--	
	WO 2002-JP690	W	20020130	<--	
AB	A steel plate is hot-dip plated with Zn-(20-95%) Al, conversion coated, and heat treated to provide the plated layer with a thermal history. The thermal history is provided immediately after the steel plate is taken out of the hot-dip plating bath, or within a temperature range of (130-300°) to 100°.				
IC	ICM C23C0002-28				
	ICS C23C0022-24				
CC	55-6 (Ferrous Metals and Alloys)				
	Section cross-reference(s): 42				
ST	zinc aluminum plating steel heat treatment thermal history				
IT	Aminoplasts				
	RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(acrylic, top coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)				
IT	Polyesters, preparation				
	RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(aminoplast-, prime coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)				
IT	Acrylic polymers, uses				
	RL: TEM (Technical or engineered material use); USES (Uses)				
	(aminoplast-, top coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)				
IT	Polyesters, preparation				
	RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(aminoplast-epoxy, prime coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)				
IT	Epoxy resins, preparation				
	RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(aminoplast-polyester-, prime coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)				
IT	Phosphates, uses				
	RL: NUU (Other use, unclassified); USES (Uses)				
	(component of conversion coated layer; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)				
IT	Coating process				
	(conversion; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)				
IT	Polyesters, preparation				
	RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM				

- (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(epoxy, prime coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT Polyurethanes, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(epoxy, prime coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT Aminoplasts  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(epoxy-polyester, prime coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT Polyurethanes, preparation  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(epoxy-polyester-, prime coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT Polyesters, preparation  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(epoxy-polyurethane-, prime coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT Coating process  
(hot-dipping; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT Chromating  
Heat treatment  
(manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT Acrylic polymers, uses  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(optionally crosslinked, component of conversion coated layer or top coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT Epoxy resins, preparation  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polyester-, prime coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT Aminoplasts  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polyester-, prime coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT Polyurethanes, preparation  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polyester-, top coating or component of conversion coated layer; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT Epoxy resins, preparation  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polyester-polyurethane-, prime coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)

- IT Epoxy resins, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polyurethane-, prime coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT Acrylic polymers, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(prime coating, Paraloid; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT Fluoropolymers, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(prime coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT Polyesters, preparation  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(top coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT Epoxy resins, uses  
Polyurethanes, uses  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(top coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT Coating materials  
(top or prime coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT 7439-89-6, Iron, uses 7439-95-4, Magnesium, uses 7439-96-5, Manganese, uses 7440-02-0, Nickel, uses 7440-48-4, Cobalt, uses 7440-70-2, Calcium, uses 7631-86-9, Silica, uses 7664-38-2, Phosphoric acid, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(component of conversion coated layer; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT 12597-69-2, Steel, processes 76917-82-3  
84658-06-0 116434-13-0 439666-14-5  
444996-68-3 444996-70-7 444996-71-3  
444996-72-9 444996-73-0 444996-74-1  
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT 444996-75-2P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(prime coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT 444996-69-4P 444996-76-3P 444996-77-4P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(prime coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT 24937-79-9, Kynar 500 71343-23-2, Epokey 802-30CX 201816-69-5, Epokey 830  
RL: TEM (Technical or engineered material use); USES (Uses)  
(prime coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)
- IT 40471-09-8P, Adipic acid-ethylene glycol-isophthalic acid-neopentyl glycol-terephthalic acid copolymer

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (top coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)

IT 110670-73-0P 220521-52-8P 444996-78-5P 445041-03-2P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (top coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)

IT 7631-86-9, Silica, uses 7664-38-2, Phosphoric acid, uses  
 RL: NUU (Other use, unclassified); USES (Uses) (component of conversion coated layer; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)

RN 7631-86-9 HCAPLUS  
 CN Silica (CA INDEX NAME)



RN 7664-38-2 HCAPLUS  
 CN Phosphoric acid (CA INDEX NAME)



IT 12597-69-2, Steel, processes 76917-82-3  
 84058-06-0 116434-13-0 439666-14-5  
 444996-68-3 444996-70-7 444996-71-8  
 444996-72-9 444996-73-0 444996-74-1  
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)

RN 12597-69-2 HCAPLUS  
 CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 76917-82-3 HCAPLUS  
 CN Aluminum alloy, base, Al 55,Zn 40,Mg 3,Si 1.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	55	7429-90-5
Zn	40	7440-66-6
Mg	3	7439-95-4
Si	1.5	7440-21-3

RN 84058-06-0 HCAPLUS  
 CN Aluminum alloy, base, Al 55,Zn 44,Si 1.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	55	7429-90-5
Zn	44	7440-66-6
Si	1.5	7440-21-3

RN 116434-13-0 HCAPLUS

CN Zinc alloy, base, Zn 59,Al 40,Si 1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	59	7440-66-6
Al	40	7429-90-5
Si	1	7440-21-3

RN 439666-14-5 HCAPLUS

CN Aluminum alloy, base, Al 70,Zn 28,Si 1.8 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	70	7429-90-5
Zn	28	7440-66-6
Si	1.8	7440-21-3

RN 444996-68-3 HCAPLUS

CN Aluminum alloy, base, Al 45-65,Zn 23-54,Fe 0-10,Si 0.7-2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	45 - 65	7429-90-5
Zn	23 - 54	7440-66-6
Fe	0 - 10	7439-89-6
Si	0.7 - 2	7440-21-3

RN 444996-70-7 HCAPLUS

CN Aluminum alloy, base, Al 55,Zn 42,V 2,Si 1.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	55	7429-90-5
Zn	42	7440-66-6
V	2	7440-62-2
Si	1.5	7440-21-3

RN 444996-71-8 HCAPLUS

CN Aluminum alloy, base, Al 55,Zn 42,Mn 2,Si 1.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	55	7429-90-5
Zn	42	7440-66-6
Mn	2	7439-96-5



Si 1.5 7440-21-3

RN 444996-72-9 HCAPLUS

CN Aluminum alloy, base, Al 55,Zn 38,Mg 3,Mn 2,Si 1.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Al	55	7429-90-5
Zn	38	7440-66-6
Mg	3	7439-95-4
Mn	2	7439-96-5
Si	1.5	7440-21-3

RN 444996-73-0 HCAPLUS

CN Aluminum alloy, base, Al 55,Zn 36,Mg 3,Mn 2,V 2,Si 1.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Al	55	7429-90-5
Zn	36	7440-66-6
Mg	3	7439-95-4
Mn	2	7439-96-5
V	2	7440-62-2
Si	1.5	7440-21-3

RN 444996-74-1 HCAPLUS

CN Aluminum alloy, base, Al 55,Zn 38,Mg 3,V 2,Si 1.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Al	55	7429-90-5
Zn	38	7440-66-6
Mg	3	7439-95-4
V	2	7440-62-2
Si	1.5	7440-21-3

IT 444996-77-4P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(prime coating; manufacture of surface-treated steel sheet by hot-dip plating and thermally treating the plated layer)

RN 444996-77-4 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, polymer with 1,4-benzenedicarboxylic acid, Burnock D 550, (chloromethyl)oxirane, 2,2-dimethyl-1,3-propanediol, 1,2-ethanediol, hexanedioic acid and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 91261-21-1

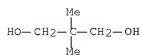
CMF Unspecified

CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

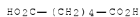
CM 2

CRN 126-30-7  
CMF C5 H12 O2



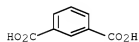
CM 3

CRN 124-04-9  
CMF C6 H10 O4



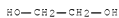
CM 4

CRN 121-91-5  
CMF C8 H6 O4



CM 5

CRN 107-21-1  
CMF C2 H6 O2



CM 6

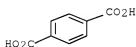
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CMF C3 H5 Cl O



CM 7

CRN 100-21-0

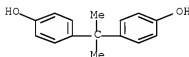
CMF C8 H6 O4



CM 8

CRN 80-05-7

CMF C15 H16 O2



## RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Nkk Corp	1999			JP 11343556 A	HCAPLUS
Sumitomo Metal Industri	1997			JP 09111433 A	HCAPLUS

L74 ANSWER 7 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2000:778537 HCAPLUS [Full-text](#)

DN 133:336642

TI Chromium-free metal surface treatment agents and metal sheets coated therewith

IN Kamo, Hiroaki; Hotta, Yasunari

PA Toyobo Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000309878	A	20001107	JP 1999-115151	19990422 <--
PRAI	JP 1999-115151		19990422 <--		

AB The surface treatment agents comprise (1) Al salts, (2) metal salts other than Al salts, (3) inorg. oxides containing Al and elements other than Al and O, and (4) resins and/or their precursors. Resin-coated metal sheets having the surface treatment layer between metal sheet and resin layer are also claimed. Thus, styrene 16, Me methacrylate 36, glycerin monomethacrylate 20, and methacrylic acid 16 parts were added to H2O containing 1.5 parts Na styrenesulfonate and K2S2O8 to give an acrylic resin dispersion, which was mixed with Mn(II) phosphate, Al(NO3)3, and Al-coated colloidal SiO2, applied

on a galvanized steel sheet, and dried to form a coating showing excellent adhesion and corrosion resistance.

- IC ICM C23C0022-00  
ICS C09D0005-08; C23F0011-00
- CC 42-10 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 55
- ST anticorrosive acrylic coating chromium free steel; aluminum nitrate manganese phosphate anticorrosive steel
- IT Galvanized steel  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(chromium-free anticorrosive coating compns. for metal sheets)
- IT 105030-01-1P 221312-21-6P 303968-20-9P 304466-07-7P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(chromium-free anticorrosive coating compns. for metal sheets)
- IT 7664-38-2, Phosphoric acid, uses 7758-23-8, Calcium dihydrogen phosphate 7784-30-7, Aluminum phosphate 10043-01-3, Aluminum sulfate 13473-90-0 31086-72-3, Phosphoric acid, iron(2+) salt 81686-72-8, Phosphoric acid, manganese(2+) salt 304655-56-9, Snowtex ST-CXS 9  
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
(chromium-free anticorrosive coating compns. for metal sheets)
- IT 12597-69-2, Steel, uses  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(chromium-free anticorrosive coating compns. for metal sheets)
- IT 7429-90-5, Aluminum, uses  
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
(colloidal silica coated with; chromium-free anticorrosive coating compns. for metal sheets)
- IT 7631-86-9, Silica, uses  
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
(colloidal, aluminum-coated; chromium-free anticorrosive coating compns. for metal sheets)
- IT 37346-11-5  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(steel coated with; chromium-free anticorrosive coating compns. for metal sheets)
- IT 303968-20-9P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(chromium-free anticorrosive coating compns. for metal sheets)
- RN 303968-20-9 HCAPLUS
- CN 2-Butenedioic acid (2E)-, dibutyl ester, polymer with Epo Tohto YD 017, ethenylbenzene, 2,5-furandione, 2-hydroxyethyl 2-propenoate, (1-methylethenyl)benzene dimer, 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic acid and 2-methyl-2-propenoic acid, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8

CMF C6 H15 N



CM 2

CRN 303968-19-6

CMF (C12 H20 O4 . (C9 H10)2 . C8 H8 . C7 H13 N O4 S . C5 H8 O3 . C4 H6 O2 . C4 H2 O3 . Unspecified)\*

CCI PMS

CM 3

CRN 70726-46-4

CMF Unspecified

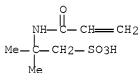
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 4

CRN 15214-89-8

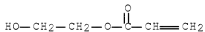
CMF C7 H13 N O4 S



CM 5

CRN 818-61-1

CMF C5 H8 O3



CM 6

CRN 108-31-6

CMF C4 H2 O3

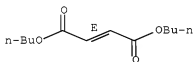


CM 7

CRN 105-75-9

CMF C12 H20 O4

Double bond geometry as shown.



CM 8

CRN 100-42-5

CMF C8 H8



CM 9

CRN 79-41-4

CMF C4 H6 O2



CM 10

CRN 6144-04-3

CMF (C9 H10)2

CCI PMS

CM 11

CRN 98-83-9

CMF C9 H10



IT 7864-38-2, Phosphoric acid, uses 7784-30-7, Aluminum phosphate 10043-01-3, Aluminum sulfate 13473-90-0  
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)

(chromium-free anticorrosive coating compns. for metal sheets)

RN 7664-38-2 HCAPLUS

CN Phosphoric acid (CA INDEX NAME)



RN 7784-30-7 HCAPLUS

CN Phosphoric acid, aluminum salt (1:1) (CA INDEX NAME)



● A1

RN 10043-01-3 HCAPLUS

CN Sulfuric acid, aluminum salt (3:2) (CA INDEX NAME)



● 2/3 A1

RN 13473-90-0 HCAPLUS

CN Nitric acid, aluminum salt (3:1) (CA INDEX NAME)



● 1/3 A1

IT 12597-69-2, Steel, uses

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(chromium-free anticorrosive coating compns. for metal sheets)

RN 12597-69-2 HCAPLUS

CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 7429-90-5, Aluminum, uses  
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
 (colloidal silica coated with; chromium-free anticorrosive coating  
 compns. for metal sheets)  
 RN 7429-90-5 HCAPLUS  
 CN Aluminum (CA INDEX NAME)

Al

IT 7631-86-9, Silica, uses  
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
 (colloidal, aluminum-coated; chromium-free anticorrosive coating  
 compns. for metal sheets)  
 RN 7631-86-9 HCAPLUS  
 CN Silica (CA INDEX NAME)

====Si====

IT 37346-11-5  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)  
 (steel coated with; chromium-free anticorrosive coating  
 compns. for metal sheets)  
 RN 37346-11-5 HCAPLUS  
 CN Nickel alloy, nonbase, Ni,Zn (CA INDEX NAME)

Component	Component Registry Number
Ni	7440-02-0
Zn	7440-66-6

L74 ANSWER 8 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2000:778536 HCAPLUS Full-text

DN 133:336641

TI Resin-coated metal sheets with excellent corrosion resistance and  
 interlayer adhesion

IN Kamo, Hiroaki; Hotta, Yasunari

PA Toyobo Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 18 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000309877	A	20001107	JP 1999-113792	19990421 <--
	JP 3901871	B2	20070404		
PRAI	JP 1999-113792		19990421	<--	

AB Metal sheets having at least a  $\leq 5\text{-}\mu\text{m}$  layer free from Cr and a resin layer in  
 this order are characterized by maximum blister width of the resin layer  $\leq 5\text{ mm}$   
 when the surface layers are cut into X-shape to reach the metal substrate and



sprayed by salt water according to JIS-Z 2371 for 360 h. Thus, styrene 16, Me methacrylate 36, glycerin monomethacrylate 20, and methacrylic acid 16 parts were added to H2O containing 1.5 parts Na styrenesulfonate and K2S2O8 to give an acrylic resin dispersion, which was mixed with Al(OAc)3, Mn phosphate, and colloidal SiO2, applied on an electrogalvanized steel sheet, and dried to form a coating showing excellent adhesion and corrosion resistance.

- IC ICM C23C0022-00  
ICS B05D0005-00; B05D0007-14; B32B0015-08; C23C0022-07; C23C0030-00  
CC 42-10 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 55  
ST anticorrosive acrylic coating chromium free steel  
IT Galvanized steel  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(chromium-free, resin-coated metal sheets with good corrosion resistance and interlayer adhesion)  
IT 105030-01-1P 221312-21-6P 303966-20-9P 304466-07-7P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(chromium-free, resin-coated metal sheets with good corrosion resistance and interlayer adhesion)  
IT 139-12-8, Aluminum acetate 7446-70-0, Aluminum chloride (AlCl3), uses 7664-38-2, Phosphoric acid, uses 7757-86-0, Magnesium hydrogen phosphate 7758-23-8, Calcium dihydrogen phosphate 7784-39-7, Aluminum phosphate 10043-01-3, Aluminum sulfate 10103-48-7, Copper phosphate 13473-99-0, Aluminum nitrate 13530-50-2, Aluminum dihydrogen phosphate 22047-20-7, Phosphoric acid, iron(3+) salt 81686-72-8, Phosphoric acid, manganese(2+) salt 304655-56-9, Snowtex ST-CXS 9  
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
(chromium-free, resin-coated metal sheets with good corrosion resistance and interlayer adhesion)  
IT 12597-69-2, Steel, uses  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(chromium-free, resin-coated metal sheets with good corrosion resistance and interlayer adhesion)  
IT 7429-90-5, Aluminum, uses  
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
(colloidal silica coated with; chromium-free, resin-coated metal sheets with good corrosion resistance and interlayer adhesion)  
IT 7631-86-9, Silica, uses  
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
(colloidal; chromium-free, resin-coated metal sheets with good corrosion resistance and interlayer adhesion)  
IT 37346-11-5  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(steel coated with; chromium-free, resin-coated metal sheets with good corrosion resistance and interlayer adhesion)  
IT 303966-20-9P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(chromium-free, resin-coated metal sheets with good corrosion resistance and interlayer adhesion)  
RN 303968-20-9 HCAPLUS  
CN 2-Butenedioic acid (2E)-, dibutyl ester, polymer with Epo Tohto YD 017, ethenylbenzene, 2,5-furandione, 2-hydroxyethyl 2-propenoate,

(1-methylethenyl)benzene dimer, 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic acid and 2-methyl-2-propenoic acid, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8

CMF C6 H15 N



CM 2

CRN 303968-19-6

CMF (C12 H20 O4 . (C9 H10)2 . C8 H8 . C7 H13 N O4 S . C5 H8 O3 . C4 H6 O2 . C4 H2 O3 . Unspecified)\*

CCI PMS

CM 3

CRN 70726-46-4

CMF Unspecified

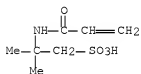
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 4

CRN 15214-89-8

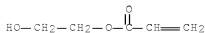
CMF C7 H13 N O4 S



CM 5

CRN 818-61-1

CMF C5 H8 O3



CM 6

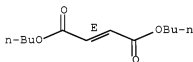
CRN 108-31-6  
CMF C4 H2 O3



CM 7

CRN 105-75-9  
CMF C12 H20 O4

Double bond geometry as shown.



CM 8

CRN 100-42-5  
CMF C8 H8



CM 9

CRN 79-41-4  
CMF C4 H6 O2



CM 10

CRN 6144-04-3  
CMF (C9 H10)2  
CCI PMS

CM 11

CRN 98-83-9  
CMF C9 H10



IT 139-12-8, Aluminum acetate 7446-70-0, Aluminum chloride (AlCl<sub>3</sub>), uses 7664-38-2, Phosphoric acid, uses 7784-30-7, Aluminum phosphate 10043-01-3, Aluminum sulfate 13473-90-0, Aluminum nitrate 13530-50-2, Aluminum dihydrogen phosphate  
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses) (chromium-free, resin-coated metal sheets with good corrosion resistance and interlayer adhesion)  
 RN 139-12-8 HCAPLUS  
 CN Acetic acid, aluminum salt (3:1) (CA INDEX NAME)



● 1/3 Al

RN 7446-70-0 HCAPLUS  
 CN Aluminum chloride (AlCl<sub>3</sub>) (CA INDEX NAME)



RN 7664-38-2 HCAPLUS  
 CN Phosphoric acid (CA INDEX NAME)



RN 7784-30-7 HCAPLUS  
 CN Phosphoric acid, aluminum salt (1:1) (CA INDEX NAME)



● Al

RN 10043-01-3 HCAPLUS  
 CN Sulfuric acid, aluminum salt (3:2) (CA INDEX NAME)



●2/3 A1

RN 13473-90-0 HCAPLUS  
 CN Nitric acid, aluminum salt (3:1) (CA INDEX NAME)



●1/3 A1

RN 13530-50-2 HCAPLUS  
 CN Phosphoric acid, aluminum salt (3:1) (CA INDEX NAME)



●1/3 A1

IT 12597-69-2, Steel, uses  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (chromium-free, resin-coated metal sheets with good corrosion resistance and interlayer adhesion)  
 RN 12597-69-2 HCAPLUS  
 CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 7429-90-5, Aluminum, uses  
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
 (colloidal silica coated with; chromium-free, resin-coated metal sheets with good corrosion resistance and interlayer adhesion)  
 RN 7429-90-5 HCAPLUS  
 CN Aluminum (CA INDEX NAME)

A1

IT 7631-86-9, Silica, uses  
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
 (colloidal; chromium-free, resin-coated metal sheets with good  
 corrosion resistance and interlayer adhesion)  
 RN 7631-86-9 HCAPLUS  
 CN Silica (CA INDEX NAME)

====Si====

IT 37346-11-5  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)  
 (steel coated with; chromium-free, resin-coated metal sheets  
 with good corrosion resistance and interlayer adhesion)  
 RN 37346-11-5 HCAPLUS  
 CN Nickel alloy, nonbase, Ni,Zn (CA INDEX NAME)

Component	Component Registry Number
Ni	7440-02-0
Zn	7440-66-6

L74 ANSWER 9 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2000:672606 HCAPLUS Full-text

DN 133:268323

TI The corrosion-resistant and low poisonous precoat metallic plate

IN Furukawa, Hiroyasu; Takahashi, Akira; Ueda, Kohei; Nomura, Hiromasa;  
 Kanai, Hiroshi

PA Nippon Steel Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 27 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000262967	A	20000926	JP 1999-75128	19990319 <--
	JP 3689252	B2	20050831		
PRAI	JP 1999-75128		19990319	<--	

AB The plate is treated with tanning acid/organic resin, then with a coating  
 comprising a polymer from polyester polyol (with 23 functional groups),  
 adducts of epoxy resin and lactone or alkylene oxide, and blocked  
 polyisocyanate, and a phosphoric acid ion source and a vanadic acid ion  
 source. Thus, hydrogenated bisphenol A 364.9, adipic acid  
 441.6, trimethylolpropane 304.1, Placel G402 ( $\epsilon$ -caprolactone-epoxy adduct) 400  
 parts were reacted to give a polyol, 1,3- bis(isocyanatomethyl)cyclohexane  
 241.6 Me Et ketoxime 180.8, polyester polyol 177.0 were reacted to give a  
 blocked isocyanate, and the copolymer of both was coated on an electroplating  
 Zn steel plate with Mn2O3·V2O5, showing good adhesion and anticorrosion.

IC ICM B05D0007-14

ICS B05D0005-00; B05D0007-24; B32B0015-08; B32B0027-38; B32B0027-40;  
 C09D0005-08; C09D0007-12; C09D0175-04

CC 42-10 (Coatings, Inks, and Related Products)  
 IT 264148-18-7P 281660-41-1P  
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)  
 (corrosion-resistant and low poisonous precoat metallic plate)  
 IT 1305-62-0, Calcium hydroxide, uses 1305-78-8, Calcium oxide, uses  
 1310-65-2, Lithium hydroxide 1314-34-7, Vanadium trioxide 1314-62-1,  
 Vanadium oxide, uses 7664-38-2, Phosphoric acid, uses  
 7757-86-0, Magnesium hydrogen phosphate 7757-87-1 7757-93-9, Calcium  
 hydrogen phosphate 7758-23-8, Calcium dihydrogen phosphate 7758-87-4,  
 Calcium phosphate 7779-90-8, Zinc phosphate 10343-62-1,  
 Metaphosphoric acid 13477-39-9, Calcium metaphosphate 13550-42-0,  
 Calcium vanadium oxide (Ca3V2O8) 13573-13-2, Magnesium vanadium oxide  
 (MgV2O6) 14100-64-2, Calcium vanadium oxide (CaV2O6) 14986-94-8,  
 Manganese vanadium oxide (MnV2O6) 15469-50-0, Vanadium zinc  
 oxide (V2Zn3O8) 138882-01-6, Manganese vanadium oxide (MnVO4)  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (corrosion-resistant and low poisonous precoat metallic plate)  
 IT 264148-18-7P  
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)  
 (corrosion-resistant and low poisonous precoat metallic plate)  
 RN 264148-18-7 HCAPLUS  
 CN 1,3-Benzenedicarboxylic acid, dimethyl ester, polymer with  
 (chloromethyl)oxirane, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol,  
 1,6-hexanediol, 4,4'-(1-methylethylidene)bis[phenol], 2-oxepanone and  
 Takenate D 160N (9CI) (CA INDEX NAME)

CM 1

CRN 120993-98-8

CMF Unspecified

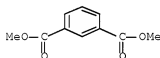
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 1459-93-4

CMF C10 H10 O4



CM 3

CRN 629-11-8

CMF C6 H14 O2



CM 4

CRN 502-44-3

CMF C6 H10 O2



CM 5

CRN 106-89-8

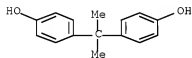
CMF C3 H5 Cl O



CM 6

CRN 80-05-7

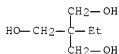
CMF C15 H16 O2



CM 7

CRN 77-99-6

CMF C6 H14 O3



IT 7664-38-2, Phosphoric acid, uses 7799-90-0, Zinc phosphate 15469-60-0, Vanadium zinc oxide (V2Zn3O8)  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (corrosion-resistant and low poisonous precoat metallic plate)  
 RN 7664-38-2 HCAPLUS  
 CN Phosphoric acid (CA INDEX NAME)





RN 7779-90-0 HCAPLUS  
 CN Phosphoric acid, zinc salt (2:3) (CA INDEX NAME)



● 3/2 Zn

RN 15469-60-0 HCAPLUS  
 CN Vanadium zinc oxide (V2Zn3O8) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	8	17778-80-2
Zn	3	7440-66-6
V	2	7440-62-2

L74 ANSWER 10 OF 15 HCAPLUS COPYRIGHT 2007 ACS on SIN

AN 2000:616851 HCAPLUS Full-text

DN 133:224344

TI Anticorrosive steel sheets for fuel tanks

IN Ogata, Hiroyuki; Suzuki, Yukiko; Unno, Shigeru

PA Kawasaki Steel Corp., Japan

SO Jpn. Kokai Tokyo Koho, 29 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000239854	A	20000905	JP 1999-36563	19990215 <--
PRAI	JP 1999-36563		19990215	<--	

AB Coated steel sheets comprise (a) a steel sheet, (b) Zn plating or Zn-based plating layers on both sides of the sheet, (c) Cr6+-free chromate layers containing H3PO4 and silica on both plating layers, (d) an organic polymer layer containing amine-modified epoxy resin, Al and Ni powders on 1 side of the chromate layer, and (e) an organic polymer layer containing polymers having ≥1 functional group selected from OH, NCO, CO2H, glycidyl, and amino, lubricants, and SiO2 on 1 side of the other chromate layer. The steel sheets have good corrosion resistance to gasoline containing alcs. and HCO2H, and show good workability.

IC ICM C23C0022-20

ICS B32B0015-08; B60K0015-03; B65D0090-04; C23C0022-17; C23C0022-48

CC 42-9 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 55

ST steel sheet anticorrosive coating fuel tank; epoxy resin coating  
 anticorrosive steel

IT Fuel tanks  
 (anticorrosive coated steel sheets for fuel tanks)

IT Acrylic polymers, uses  
 Alkyd resins  
 Chromates  
 Epoxy resins, uses  
 Galvanized steel  
 Polyurethanes, uses  
 Polyvinyl butyral  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)  
 (anticorrosive coated steel sheets for fuel tanks)

IT Coating materials  
 (anticorrosive; anticorrosive coated steel sheets for fuel  
 tanks)

IT Galvanized steel  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)  
 (electrogalvanized; anticorrosive coated steel sheets for  
 fuel tanks)

IT 7664-38-2, Phosphoric acid, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (anticorrosive coated steel sheets for fuel tanks)

IT 12597-69-2, Steel, uses 36830-06-7, Bisphenol  
 A-diethanolamine-epichlorohydrin copolymer 183954-78-1, Bisphenol  
 A-dipropylamine-epichlorohydrin copolymer 291301-88-7, Bisphenol  
 A-N-ethylethanolamine-epichlorohydrin copolymer  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)  
 (anticorrosive coated steel sheets for fuel tanks)

IT 11099-06-2, Ethyl silicate  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (anticorrosive coated steel sheets for fuel tanks)

IT 9003-01-4, Polyacrylic acid 25300-64-5, Maleic acid-styrene copolymer  
 25948-33-8, Acrylic acid-itaconic acid copolymer 29132-58-9, Acrylic  
 acid-maleic acid copolymer 78145-90-1, Maleic acid-styrenesulfonic acid  
 copolymer  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)  
 (chromate layer; anticorrosive coated steel sheets for fuel  
 tanks)

IT 7631-86-9, Snowtex O, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (colloidal; anticorrosive coated steel sheets for fuel tanks)

IT 7429-90-5, Aluminum, uses 7440-02-0, Nickel, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (powders; anticorrosive coated steel sheets for fuel tanks)

IT 7664-38-2, Phosphoric acid, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (anticorrosive coated steel sheets for fuel tanks)

RN 7664-38-2 HCAPLUS

CN Phosphoric acid (CA INDEX NAME)



IT 12597-69-2, Steel, uses 38830-06-7, Bisphenol  
 A-diethanolamine-epichlorohydrin copolymer  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)  
 (anticorrosive coated steel sheets for fuel tanks)  
 RN 12597-69-2 HCAPLUS  
 CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 38830-06-7 HCAPLUS  
 CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-  
 (chloromethyl)oxirane and 2,2'-iminobis[ethanol] (CA INDEX NAME)

CM 1

CRN 111-42-2  
 CMF C4 H11 N O2



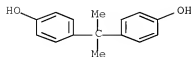
CM 2

CRN 106-89-8  
 CMF C3 H5 Cl O



CM 3

CRN 80-05-7  
 CMF C15 H16 O2



IT 7631-66-9, Snowtex O, uses  
 RL: MOA (Modifier or additive use); USES (Uses)

(colloidal; anticorrosive coated steel sheets for fuel tanks)

RN 7631-86-9 HCAPLUS

CN Silica (CA INDEX NAME)

O=Si=O

IT 7429-90-5, Aluminum, uses

RL: MOA (Modifier or additive use); USES (Uses)

(powders; anticorrosive coated steel sheets for fuel tanks)

RN 7429-90-5 HCAPLUS

CN Aluminum (CA INDEX NAME)

Al

L74 ANSWER 11 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2000:484249 HCAPLUS [Full-text](#)

DN 133:92655

TI Chromium-free pre-coated steel sheets with excellent corrosion resistance

IN Ueda, Kohei; Nomura, Hiromasa; Kanai, Hiroshi; Furukawa, Hiroyasu; Kabeya, Motoo; Shimakura, Toshiaki

PA Nippon Steel Corp., Japan; Nippon Paint Co., Ltd.

SO Jpn. Kokai Tokkyo Koho, 21 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000199078	A	20000718	JP 1998-374792	19981228 <--
PRAI	JP 1998-374792		19981228 <--		

AB The pre-coated steels consist of (plated) steel sheets having coatings of a primer layer containing 50-100 weight parts resins and 0.1-10 weight parts V oxide and an anticorrosive layer containing a V-containing ion-generating pigment and a phosphate ion-generating pigment. Optionally the primer layer may also contain thiocarbonyl-containing compds. 0.2-50, phosphoric acid derivs. 0.1-5 (as PO<sub>4</sub>), and/or fine-grain silica 10-500 weight parts. The polymers contained in the anticorrosive layer may be prepared by reaction of (A) polyester polyols having ≥3 functional groups, (B) adducts of lactones or alkylene oxides with epoxy resin having ≥1 secondary OH group(s), and (C) blocked organic polyisocyanate or NCO-terminated blocked prepolymer obtained by reaction of active H compds. and organic polyisocyanates. The steels have excellent over-coatability and corrosion resistance.

IC ICM C23C0028-00

ICS B05D0007-14; B32B0015-08

CC 55-6 (Ferrous Metals and Alloys)

Section cross-reference(s): 42

ST anticorrosive chromium free precoated steel sheet; vanadium oxide anticorrosive coating steel sheet; phosphate anticorrosive coating steel sheet

IT Polyolefins

RL: PRP (Properties); TEM (Technical or engineered material use); USES

- (Uses)  
(acrylic, primer layer containing; corrosion-resistant pre-coated steel sheets having bilayered coatings containing V oxide and phosphates)
- IT Epoxy resins, properties  
Polyesters, properties  
Polyurethanes, properties  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(anticorrosive coating containing; corrosion-resistant pre-coated steel sheets having bilayered coatings containing V oxide and phosphates)
- IT Coating materials  
(anticorrosive; corrosion-resistant pre-coated steel sheets having bilayered coatings containing V oxide and phosphates)
- IT Galvanized steel  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(electrogalvanized; corrosion-resistant pre-coated steel sheets having bilayered coatings containing V oxide and phosphates)
- IT Polyurethanes, preparation  
Polyurethanes, preparation  
Polyurethanes, preparation  
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(epoxy-polyester; corrosion-resistant pre-coated steel sheets having bilayered coatings containing V oxide and phosphates)
- IT Polyesters, preparation  
Polyesters, preparation  
Polyesters, preparation  
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(epoxy-polyurethane; corrosion-resistant pre-coated steel sheets having bilayered coatings containing V oxide and phosphates)
- IT Galvanized steel  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(hot-dip; corrosion-resistant pre-coated steel sheets having bilayered coatings containing V oxide and phosphates)
- IT Epoxy resins, preparation  
Epoxy resins, preparation  
Epoxy resins, preparation  
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polyester-polyurethane; corrosion-resistant pre-coated steel sheets having bilayered coatings containing V oxide and phosphates)
- IT 177354-79-9P, Manganese phosphorus vanadium oxide 188776-58-1P, Magnesium phosphorus vanadium oxide 188776-62-7P, Calcium phosphorus vanadium oxide 282107-85-1P  
RL: PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(anticorrosive coating containing; corrosion-resistant pre-coated steel sheets having bilayered coatings containing V oxide and phosphates)
- IT 1305-78-8, Calcia, properties 7757-86-0, Magnesium monohydrogenphosphate 7757-87-1 7757-93-9, Calcium monohydrogenphosphate 11099-11-9, Vanadium oxide 15469-60-0, Vanadium zinc oxide (V2Zn3O8) 115493-59-9, Manganese vanadium oxide (Mn3V2O11) 115493-63-5, Manganese vanadium oxide (MnV2O7) 138882-01-6, Manganese vanadium oxide (MnVO4)  
RL: PRP (Properties); TEM (Technical or engineered material use); USES

(Uses)  
 (anticorrosive coating containing; corrosion-resistant pre-coated steel sheets having bilayered coatings containing V oxide and phosphates)

IT 7631-86-9, Silica, properties  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (colloidal, primer layer containing; corrosion-resistant pre-coated steel sheets having bilayered coatings containing V oxide and phosphates)

IT 264148-16-5P, Adipic acid-1,3-bis(isocyanatomethyl)cyclohexane-dimethyl isophthalate-dipropylene glycol-ethyleneglycol-1,6-hexanediol-Placcel G-402-trimethylolpropane copolymer 264148-23-4P, Adipic acid-1,3-bis(isocyanatomethyl)cyclohexane-dipropylene glycol-ethyleneglycol-hydrogenated bisphenol A-Placcel G-402-trimethylolpropane copolymer 282107-86-2P 282107-87-3P 282107-88-4P 282107-89-5P 282107-90-8P 282107-91-9P 282107-92-0P 282107-93-1P 282107-94-2P  
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (corrosion-resistant pre-coated steel sheets having bilayered coatings containing V oxide and phosphates)

IT 62-56-6, Thiourea, properties 10124-31-9, Ammonium phosphate  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (primer layer containing; corrosion-resistant pre-coated steel sheets having bilayered coatings containing V oxide and phosphates)

IT 13550-42-0, Calcium vanadium oxide (Ca3V2O8) 13573-13-2, Magnesium vanadium oxide (MgV2O6) 14100-64-2, Calcium vanadium oxide (CaV2O6) 14986-94-8, Manganese vanadium oxide (MnV2O6)  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (sintering with phosphoric acids for anticorrosive layer component preparation; corrosion-resistant pre-coated steel sheets having bilayered coatings containing V oxide and phosphates)

IT 2466-09-3, Pyrophosphoric acid 7664-38-2, Phosphoric acid, properties 7758-87-4, Calcium phosphate 10043-83-1, Magnesium orthophosphate 10343-62-1, Metaphosphoric acid 13477-39-9, Calcium metaphosphate  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (sintering with vanadium compds. for anticorrosive layer component preparation; corrosion-resistant pre-coated steel sheets having bilayered coatings containing V oxide and phosphates)

IT 15469-60-0, Vanadium zinc oxide (V2Zn3O8)  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (anticorrosive coating containing; corrosion-resistant pre-coated steel sheets having bilayered coatings containing V oxide and phosphates)

RN 15469-60-0 HCAPLUS  
 CN Vanadium zinc oxide (V2Zn3O8) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
O	8	17778-80-2
Zn	3	7440-66-6
V	2	7440-62-2

IT 7631-86-9, Silica, properties  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)  
 (colloidal, primer layer containing; corrosion-resistant pre-coated  
 steel sheets having bilayered coatings containing V oxide and  
 phosphates)  
 RN 7631-86-9 HCAPLUS  
 CN Silica (CA INDEX NAME)



IT 282107-87-3P  
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material  
 use); PREP (Preparation); USES (Uses)  
 (corrosion-resistant pre-coated steel sheets having bilayered  
 coatings containing V oxide and phosphates)  
 RN 282107-87-3 HCAPLUS  
 CN Hexanedioic acid, polymer with (chloromethyl)oxirane, 2-ethyl-2-  
 (hydroxymethyl)-1,3-propanediol, 4,4'-(1-methylethylidene)bis[phenol],  
 2-oxepanone and Takenate D 160N (9CI) (CA INDEX NAME)

CM 1

CRN 120993-98-8

CMF Unspecified

CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 502-44-3

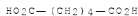
CMF C6 H10 O2



CM 3

CRN 124-04-9

CMF C6 H10 O4



CM 4

CRN 106-89-8

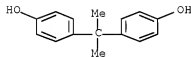
CMF C3 H5 Cl O



CM 5

CRN 80-05-7

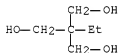
CMF C15 H16 O2



CM 6

CRN 77-99-6

CMF C6 H14 O3



IT 7664-38-2, Phosphoric acid, properties

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(sintering with vanadium compds. for anticorrosive layer component preparation; corrosion-resistant pre-coated steel sheets having bilayered coatings containing V oxide and phosphates)

RN 7664-38-2 HCAPLUS

CN Phosphoric acid (CA INDEX NAME)



L74 ANSWER 12 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2000:484244 HCAPLUS [Full-text](#)

DN 133:106380

TI Precoated steel sheets having chromium-free anticorrosive



coatings

IN Ueda, Kohei; Nomura, Hiromasa; Kanai, Hiroshi; Furukawa, Hiroyasu; Kabeya, Motoo; Shimakura, Toshiaki  
 PA Nippon Steel Corp., Japan; Nippon Paint Co., Ltd.  
 SO Jpn. Kokai Tokkyo Koho, 21 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN,CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000199071	A	20000718	JP 1998-374877	19981228 <--
PRAI	JP 1998-374877		19981228	<--	

AB The sheets have, on ≥1 side of (plated) steel sheets, undercoats selected from (1) film layers containing 30-500 parts (as solids) resins, 0.2-50 parts thiocarbonyl group-containing compds., and 0.1-5 parts (as PO4) phosphoric acid compds., (2) film layers containing 10-500 parts (as solids) fine SiO2 in addition to the components above, and (3) film layers 30-500 parts (as solids) resins, 0.2-50 parts thiocarbonyl group-containing compds., and 50-500 parts (as solids) fine SiO2 and anticorrosive coating layers containing vanadate ion-releasing ion sources and phosphate ion-releasing ion sources in resins. Thus, an electrogalvanized steel sheet was coated with a composition containing an acrylic olefin resin 100, ST-N (SiO2) 30, thiourea 2.5, and ammonium phosphate 1 g/L and then with a composition containing a polyester and 10% 1:1 mixture of MgHPO4 and fired Mn2O3.V2O5 to give a coated sheet showing good corrosion resistance, workability, and bonding of the coating films to the substrates.

IC ICM C23C0022-17

ICS B05D0005-00; B05D0007-14; B32B0015-08

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 55

ST anticorrosive coating phosphate vanadate precoated steel

IT Polyolefins

RL: TEM (Technical or engineered material use); USES (Uses)

(acrylic, undercoats; precoated steel sheets having

undercoats and chromium-free anticorrosive coatings)

IT Coating materials

(anticorrosive; precoated steel sheets having undercoats and

chromium-free anticorrosive coatings)

IT Epoxy resins, uses

Polyesters, uses

Polyurethanes, uses

RL: PRP (Properties); TEM (Technical or engineered material use); USES

(Uses)

(coating binders; precoated steel sheets having undercoats

and chromium-free anticorrosive coatings)

IT Galvanized steel

RL: TEM (Technical or engineered material use); USES (Uses)

(electrogalvanized; precoated steel sheets having undercoats

and chromium-free anticorrosive coatings)

IT Polyurethanes, uses

Polyurethanes, uses

Polyurethanes, uses

RL: INF (Industrial manufacture); PRP (Properties); TEM (Technical or

engineered material use); PREP (Preparation); USES (Uses)

(epoxy-polyester-; precoated steel sheets having undercoats

and chromium-free anticorrosive coatings)

IT Polyesters, uses

Polyesters, uses

Polyesters, uses

- RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(epoxy-polyurethane-; precoated steel sheets having undercoats and chromium-free anticorrosive coatings)
- IT Epoxy resins, uses  
Epoxy resins, uses  
Epoxy resins, uses  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polyester-polyurethane-; precoated steel sheets having undercoats and chromium-free anticorrosive coatings)
- IT Galvanized steel  
RL: TEM (Technical or engineered material use); USES (Uses)  
(precoated steel sheets having undercoats and chromium-free anticorrosive coatings)
- IT 1305-78-8, Calcium oxide, uses 1314-62-1, Vanadium oxide, uses 2466-09-3, Pyrophosphoric acid 7664-38-2, Phosphoric acid, uses 7757-86-0 7757-87-1, Trimagnesium phosphate 7757-93-9, Calcium secondary phosphate 7758-87-4, Tricalcium phosphate 7779-90-0, Zinc phosphate 10343-62-1, Metaphosphoric acid 13477-39-9, Calcium metaphosphate 13550-42-0, Calcium vanadium oxide (ca3v2o8) 13573-13-2, Magnesium vanadium oxide (mgv2o6) 14100-64-2, Calcium vanadium oxide (cav2o6) 14986-94-8, Manganese vanadium oxide (mnv2o6) 15469-60-0, Zinc vanadium oxide (zn3v2o8) 115493-59-9, Manganese vanadium oxide (mn3v2o11) 115493-63-5, Manganese vanadium oxide (mnv2o7) 138882-01-6, Manganese vanadium oxide (mnvo4)  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(anticorrosive pigment; precoated steel sheets having undercoats and chromium-free anticorrosive coatings)
- IT 7631-86-3, ST-N, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(colloidal, in undercoats; precoated steel sheets having undercoats and chromium-free anticorrosive coatings)
- IT 62-56-6, Thiourea, uses 10124-31-9, Ammonium phosphate  
RL: TEM (Technical or engineered material use); USES (Uses)  
(in undercoats; precoated steel sheets having undercoats and chromium-free anticorrosive coatings)
- IT 264148-16-5P, Adipic acid-1,3-bis(isocyanatomethyl)cyclohexane-dimethyl isophthalate-dipropylene glycol-ethylene glycol-1,6-hexanediol-Placel G 402-trimethylolpropane copolymer 264148-23-4P 264148-23-4P, Adipic acid-1,3-bis(isocyanatomethyl)cyclohexane-dipropylene glycol-ethylene glycol-hydrogenated bisphenol A-Placel G 402-trimethylolpropane copolymer 282107-91-9P 282107-92-0P 282107-93-1P 282543-26-4P 282543-27-5P 282543-28-6P 282543-29-7P 282543-30-0P 282543-31-1P 282543-32-2P 282543-33-3P  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(precoated steel sheets having undercoats and chromium-free anticorrosive coatings)
- IT 12597-69-2, Steel, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(precoated steel sheets having undercoats and chromium-free anticorrosive coatings)
- IT 7664-38-2, Phosphoric acid, uses 7779-90-0, Zinc phosphate 15469-60-0, Zinc vanadium oxide (zn3v2o8)  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(anticorrosive pigment; precoated steel sheets having undercoats and chromium-free anticorrosive coatings)

RN 7664-38-2 HCAPLUS  
 CN Phosphoric acid (CA INDEX NAME)



RN 7779-90-0 HCAPLUS  
 CN Phosphoric acid, zinc salt (2:3) (CA INDEX NAME)



● 3/2 Zn

RN 15469-60-0 HCAPLUS  
 CN Vanadium zinc oxide (V<sub>2</sub>Zn<sub>3</sub>O<sub>8</sub>) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	8	17778-80-2
Zn	3	7440-66-6
V	2	7440-62-2

IT 7631-86-9, ST-N, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (colloidal, in undercoats; precoated steel sheets having  
 undercoats and chromium-free anticorrosive coatings)  
 RN 7631-86-9 HCAPLUS  
 CN Silica (CA INDEX NAME)



IT 282543-28-6P  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or  
 engineered material use); PREP (Preparation); USES (Uses)  
 (precoated steel sheets having undercoats and chromium-free  
 anticorrosive coatings)  
 RN 282543-28-6 HCAPLUS  
 CN Hexanedioic acid, polymer with (chloromethyl)oxirane, 2-ethyl-2-  
 (hydroxymethyl)-1,3-propanediol, 4,4'-(1-methylethylidene)bis[cyclohexanol  
 ], 4,4'-(1-methylethylidene)bis[phenol], 2-oxepanone and Takenate D 160N  
 (9CI) (CA INDEX NAME)

CM 1

CRN 120993-98-8  
 CMF Unspecified  
 CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 502-44-3  
 CMF C6 H10 O2



CM 3

CRN 124-04-9  
 CMF C6 H10 O4



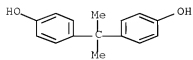
CM 4

CRN 106-89-8  
 CMF C3 H5 Cl O



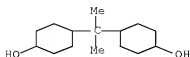
CM 5

CRN 80-05-7  
 CMF C15 H16 O2



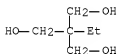
CM 6

CRN 80-04-6  
CMF C15 H28 O2



CM 7

CRN 77-99-6  
CMF C6 H14 O3



IT 12597-69-2, Steel, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(precoated steel sheets having undercoats and chromium-free  
anticorrosive coatings)  
RN 12597-69-2 HCAPLUS  
CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L74 ANSWER 13 OF 15 HCAPLUS COPYRIGHT 2007 ACS on SIN

AN 2000:484171 HCAPLUS Full-text

DN 133:90819

TI Anticorrosive, nontoxic coatings for precoated metal sheets

IN Furukawa, Hiroyasu; Kanai, Hiroshi; Ueda, Kohei; Takahashi, Akira; Nomura,  
Hiromasa; Miyabayashi, Eimei; Hirata, Fumiaki

PA Nippon Steel Corp., Japan; Takeda Chemical Industries, Ltd.

SO Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000198963	A	20000718	JP 1998-374742	19981228 <--
PRAI	JP 1998-374742		19981228	<--	

AB The coatings comprise as film-forming resin components (a) polyester polyols with functionality  $\geq 3$ , (b) epoxy resins having secondary OH groups on which lactones or alkylene oxides are added, and (c) blocked organic polyisocyanates or blocked prepolymers of organic polyisocyanates and active H compds. and as non-Cr corrosion inhibitors phosphate ion sources and vanadate ion sources (forming ions in presence of H<sub>2</sub>O and O). Thus, 600 parts of a 1.52:3.02:2.27 (mol) hydrogenated bisphenol A-adipic acid-trimethylolpropane polyester polyol and 400 parts Placel G 402 ( $\epsilon$ -caprolactone-bisphenol A epoxy resin adduct) were dissolved in cyclohexanone to give a solution (A), sep., 241.6 parts 1,3-

bis(isocyanatomethyl)cyclohexane was treated with 180.6 parts Me Et ketoxime and further treated with 177.0 parts polyester polyol (adipic acid-ethylene glycol-trimethylolpropane-dipropylene glycol copolymer) to give a blocked polyisocyanate solution, 24.5 parts of which was mixed with 43.4 parts A, premixed 5 parts MgHPO<sub>4</sub> and 5 parts Mn<sub>2</sub>O<sub>3</sub>.V<sub>2</sub>O<sub>5</sub>, and 1,1,3,3-tetrabutyl-1,3-diacetoxydistannoxane, applied on a galvanized steel sheet, baked, and over-coated to give a test piece showing excellent corrosion resistance.

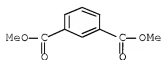
- IC ICM C09D0175-04  
ICS C09D0005-08; C23C0022-17; C23C0022-40
- CC 42-10 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 55
- ST epoxy polyester polyurethane coating anticorrosive steel;  
phosphate vanadate corrosion inhibitor polyurethane coating
- IT Galvanized steel  
RL: MSC (Miscellaneous)  
(anticorrosive, nontoxic coatings for precoated metal sheets)
- IT 502-44-3DP,  $\epsilon$ -Caprolactone, reaction products with epoxy resins,  
polymers 264148-16-5P, Adipic acid-1,3-bis(isocyanatomethyl)cyclohexane-  
dimethyl isophthalate-dipropylene glycol-ethylene glycol-1,6-hexanediol-  
Placel G 402-trimethylolpropane copolymer 264148-17-6P  
264148-18-7P, Dimethyl isophthalate-1,6-hexanediol-Placel G  
402-Takenate D 160N-trimethylolpropane copolymer 264148-19-8P  
264148-20-1P 264148-21-2P 264148-22-3P 264148-23-4P 264148-23-4P  
281660-41-1P 281660-42-2P 281660-43-3P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
(Properties); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)  
(anticorrosive, nontoxic coatings for precoated metal sheets)
- IT 1305-62-0, Calcium hydroxide, uses 1305-78-8, Calcium oxide, uses  
1310-65-2, Lithium hydroxide 1314-34-7, Vanadium trioxide 1314-56-3,  
Phosphorus pentoxide, uses 2466-09-3, Pyrophosphoric acid  
7664-38-2, Orthophosphoric acid, uses 7757-86-0 7757-87-1,  
Trimagnesium phosphate 7757-93-9 7758-23-8 7758-87-4, Calcium  
phosphate 7779-90-0, Zinc phosphate 10343-62-1, Metaphosphoric  
acid 12040-58-3 13477-39-9, Calcium metaphosphate 13550-42-0,  
Calcium vanadium oxide (Ca<sub>3</sub>V<sub>2</sub>O<sub>8</sub>) 13573-13-2, Magnesium vanadium oxide  
(MgV<sub>2</sub>O<sub>6</sub>) 14100-64-2, Calcium vanadium oxide (CaV<sub>2</sub>O<sub>6</sub>) 14986-94-8,  
Manganese vanadium oxide (MnV<sub>2</sub>O<sub>6</sub>) 15469-60-0, Vanadium zinc  
oxide (V<sub>2</sub>Zn<sub>3</sub>O<sub>8</sub>) 15607-56-4, Cobalt vanadium oxide (CoV<sub>2</sub>O<sub>6</sub>)  
138882-01-6, Manganese vanadium oxide (MnVO<sub>4</sub>)  
RL: MOA (Modifier or additive use); USES (Uses)  
(anticorrosive, nontoxic coatings for precoated metal sheets)
- IT 264148-18-7P, Dimethyl isophthalate-1,6-hexanediol-Placel G  
402-Takenate D 160N-trimethylolpropane copolymer  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
(Properties); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)  
(anticorrosive, nontoxic coatings for precoated metal sheets)
- RN 264148-18-7 HCAPLUS
- CN 1,3-Benzenedicarboxylic acid, dimethyl ester, polymer with  
(chloromethyl)oxirane, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol,  
1,6-hexanediol, 4,4'-(1-methylethylidene)bis[phenol], 2-oxepanone and  
Takenate D 160N (9CI) (CA INDEX NAME)
- CM 1
- CRN 120993-98-8  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 1459-93-4

CMF C10 H10 O4



CM 3

CRN 629-11-8

CMF C6 H14 O2



CM 4

CRN 502-44-3

CMF C6 H10 O2



CM 5

CRN 106-89-8

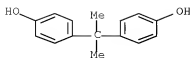
CMF C3 H5 Cl O



CM 6

CRN 80-05-7

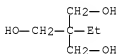
CMF C15 H16 O2



CM 7

CRN 77-99-6

CMF C6 H14 O3



IT 7664-38-2, Orthophosphoric acid, uses 7779-90-0, Zinc phosphate 15469-60-0, Vanadium zinc oxide (V2Zn3O8)  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (anticorrosive, nontoxic coatings for precoated metal sheets)  
 RN 7664-38-2 HCAPLUS  
 CN Phosphoric acid (CA INDEX NAME)



RN 7779-90-0 HCAPLUS  
 CN Phosphoric acid, zinc salt (2:3) (CA INDEX NAME)



● 3/2 Zn

RN 15469-60-0 HCAPLUS  
 CN Vanadium zinc oxide (V2Zn3O8) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
O	8	17778-80-2
Zn	3	7440-66-6
V	2	7440-62-2



L74 ANSWER 14 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2000:247305 HCAPLUS Full-text

DN 132:295206

TI Chromium-free pre-coated metal plates with high coating adhesion and corrosion resistance

IN Furukawa, Hiroyasu; Takahashi, Akira; Ueda, Kohei; Nomura, Hiromasa; Kanai, Hiroshi

PA Nippon Steel Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 26 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000107686	A	20000418	JP 1998-281199	19981002 <--
PRAI	JP 1998-281199		19981002 <--		

AB Title plates consist of metal plates, silane coupler-containing aqueous resin primers, bottom coatings, and colored top coatings in which the bottom coatings prepared from compns. containing (A)  $\geq 3$  functional group-containing polyester-polyols, secondary OH-containing epoxy resin/lactone or alkylene oxide adducts, and blocked polyisocyanates or NCO-terminated prepolymers and (B) compds. releasing P04-3 and compds. releasing V04-3 ions in the presence of water and O. A galvanized steel plate was primed with an aqueous composition containing AP 1058, Hytec S 7024, and  $\gamma$ -(2-aminoethyl)aminopropyltrimethoxysilane, baked, coated with a composition containing adipic acid (I)-hydrogenated bisphenol A-trimethylolpropane (II) copolymer, Placcel G 402, and Me Et ketoxime-blocked I-II-dipropylene glycol-ethylene glycol-1,3-bis(isocyanatomethyl)cyclohexanecopolymer, MgHP04, Mn203.V205, and a catalyst, baked, topcoated with white FL 100HQ (polyester coating), and baked to form a plate showing good interlayer adhesion, flexural resistance (no cracks), and anticorrosion at cut and edge areas.

IC ICM B05D0007-14

ICS C09D0175-04; C23F0011-00; C08G0018-80

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 55

ST silane coupler aq primer steel; anticorrosion coating adhesion steel; polyester polyol epoxy resin adduct polyisocyanate coating steel

IT 1314-56-3, Phosphorus pentoxide, uses 1314-62-1, Vanadium oxide (V2O5), uses 2466-09-3, Pyrophosphoric acid 7664-38-2, Orthophosphoric acid, uses 7757-86-0, Magnesium hydrogenphosphate 7757-87-1, Trimagnesium diphosphate 7757-93-9, Calcium hydrogenphosphate 7758-23-8, Calcium bis(dihydrogen phosphate) 7758-87-4, TriCalcium diphosphate 7779-90-0, Zinc phosphate 10343-62-1, Metaphosphoric acid 13550-42-0, Calcium vanadium oxide (Ca1.5VO4) 13573-13-2, Magnesium vanadium oxide (MgV2O6) 14986-94-8, Manganese vanadium oxide (MnV2O6) 15469-60-0, Vanadium zinc oxide (V2Zn3O8) 15607-56-4, Cobalt vanadium oxide (CoV2O6) 53801-86-8, Calcium metaphosphate 138882-01-6, Manganese vanadium oxide (MnVO4) 154662-00-7, Calcium vanadium oxide (Ca0.5VO3) 264148-25-6

RL: MOA (Modifier or additive use); USES (Uses)

(anticorrosive pigments; Cr-free precoated metal plates from aqueous primers and epoxy-polyester-polyurethane bottom coats and colored topcoats)

IT 264148-16-5P, Adipic acid-1,3-bis(isocyanatomethyl)cyclohexane-dimethyl isophthalate-dipropylene glycol-ethylene glycol-1,6-hexanediol-Placcel G 402-trimethylolpropane copolymer 264148-17-6P, Adipic

acid- $\alpha$ , $\omega$ -diisocyanato-1,3-dimethylbenzene-dimethyl  
 isophthalate-dipropylene glycol-ethylene glycol-1,6-hexanediol-Placel G  
 402-trimethylolpropane copolymer 264148-18-7P, Dimethyl  
 isophthalate-1,6-hexanediol-Placel G 402-trimethylolpropane-Takenate D  
 160N copolymer 264148-19-8P 264148-20-1P 264148-21-2P,  
 Bis(2-hydroxyethyl) terephthalate-Placel G 402-sebacic  
 acid- $\alpha$ , $\alpha$ , $\alpha$ , $\alpha$ -tetramethyl-m-xylylenediisocyanate-  
 trimethylolpropane copolymer 264148-22-3P 264148-23-4P 264148-23-4P  
 264148-24-5P, Adipic acid-3-methyl-1,5-pentanediol-Placel G  
 402-succinic acid-trimethylolpropane-Takenate D 160N copolymer  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM  
 (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (bottom coatings; Cr-free precoated metal plates from aqueous primers and  
 epoxy-polyester-polyurethane bottom coats and colored topcoats)

IT 75-79-6, Methyltrichlorosilane 1760-24-3

4420-74-0

RL: MOA (Modifier or additive use); USES (Uses)

(coupler; Cr-free precoated metal plates from aqueous primers and  
 epoxy-polyester-polyurethane bottom coats and colored topcoats)

IT 7664-38-2, Orthophosphoric acid, uses 7779-90-0, Zinc

phosphate 15469-60-0, Vanadium zinc oxide (V2Zn3O8)

RL: MOA (Modifier or additive use); USES (Uses)

(anticorrosive pigments; Cr-free precoated metal plates from aqueous  
 primers and epoxy-polyester-polyurethane bottom coats and colored  
 topcoats)

RN 7664-38-2 HCAPLUS

CN Phosphoric acid (CA INDEX NAME)



RN 7779-90-0 HCAPLUS

CN Phosphoric acid, zinc salt (2:3) (CA INDEX NAME)



● 3/2 Zn

RN 15469-60-0 HCAPLUS

CN Vanadium zinc oxide (V2Zn3O8) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
O	8	17778-80-2
Zn	3	7440-66-6
V	2	7440-62-2

IT 264148-18-7P, Dimethyl isophthalate-1,6-hexanediol-Placel G  
 402-trimethylolpropane-Takenate D 160N copolymer 264148-24-5P,  
 Adipic acid-3-methyl-1,5-pentanediol-Placel G 402-succinic  
 acid-trimethylolpropane-Takenate D 160N copolymer  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM  
 (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (bottom coatings; Cr-free precoated metal plates from aqueous primers and  
 epoxy-polyester-polyurethane bottom coats and colored topcoats)

RN 264148-18-7 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, dimethyl ester, polymer with  
 (chloromethyl)oxirane, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol,  
 1,6-hexanediol, 4,4'-(1-methylethylidene)bis[phenol], 2-oxepanone and  
 Takenate D 160N (9CI) (CA INDEX NAME)

CM 1

CRN 120993-98-8

CMF Unspecified

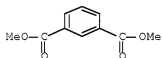
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 1459-93-4

CMF C10 H10 O4



CM 3

CRN 629-11-8

CMF C6 H14 O2



CM 4

CRN 502-44-3

CMF C6 H10 O2



CM 5

CRN 106-89-8

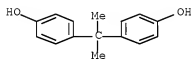
CMF C3 H5 Cl O



CM 6

CRN 80-05-7

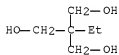
CMF C15 H16 O2



CM 7

CRN 77-99-6

CMF C6 H14 O3



RN 264148-24-5 HCAPLUS

CN Hexanedioic acid, polymer with butanedioic acid, (chloromethyl)oxirane, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 4,4'-(1-methylethylidene)bis[phenol], 3-methyl-1,5-pentanediol, 2-oxepanone and Takenate D 160N (9CI) (CA INDEX NAME)

CM 1

CRN 120993-98-8

CMF Unspecified

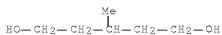
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

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CRN 4457-71-0

CMF C6 H14 O2



CM 3

CRN 502-44-3

CMF C6 H10 O2



CM 4

CRN 124-04-9

CMF C6 H10 O4



CM 5

CRN 110-15-6

CMF C4 H6 O4



CM 6

CRN 106-89-8

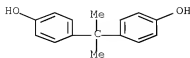
CMF C3 H5 Cl O



CM 7

CRN 80-05-7

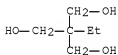
CMF C15 H16 O2



CM 8

CRN 77-99-6

CMF C6 H14 O3



IT 75-79-6, Methyltrichlorosilane 1760-24-3

4420-74-0

RL: MOA (Modifier or additive use); USES (Uses)  
 (coupler; Cr-free precoated metal plates from aqueous primers and  
 epoxy-polyester-polyurethane bottom coats and colored topcoats)

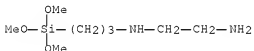
RN 75-79-6 HCAPLUS

CN Silane, trichloromethyl- (CA INDEX NAME)



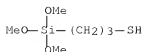
RN 1760-24-3 HCAPLUS

CN 1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]- (CA INDEX NAME)



RN 4420-74-0 HCAPLUS

CN 1-Propanethiol, 3-(trimethoxysilyl)- (CA INDEX NAME)



L74 ANSWER 15 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1987:556500 HCAPLUS Full-Text

DN 107:156500

TI Thin-film-type durable anticorrosive coating material compositions

IN Kurokawa, Yukichi; Aoki, Hiroshi; Matsuo, Shunichi

PA Shinto Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62054772	A	19870310	JP 1985-195154	19850904 <--
	JP 07030271	B	19950405		

PRAI JP 1985-195154 19850904 <--

AB Undercoating materials contain polymeric epoxy polyol resins, polyisocyanates, rustproofing pigments, H3PO4, and coupling agents. Zn-plated steel was coated with a mixture of Epikote 1009, solvents, additives, H3PO4, and hexamethylene diisocyanate and topcoated with an epoxy coating composition

IC ICM C09D0005-08

ICS C09D0003-72

CC 42-9 (Coatings, Inks, and Related Products)

Section cross-reference(s): 55, 56

IT 2530-83-8, A187

RL: USES (Uses)

(coupling agents, in anticorrosive undercoatings)

IT 13530-65-9, Zinc chromate

RL: USES (Uses)

(rustproofing pigments, in undercoating comps.)

IT 110505-87-0

RL: USES (Uses)

(undercoatings containing rustproofing pigments and)

IT 7664-38-2, Phosphoric acid, uses and miscellaneous

RL: USES (Uses)

(undercoatings containing, anticorrosive)

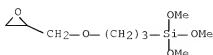
IT 2530-83-8, A187

RL: USES (Uses)

(coupling agents, in anticorrosive undercoatings)

RN 2530-83-8 HCAPLUS

CN Oxirane, 2-[[3-(trimethoxysilyl)propoxy)methyl]- (CA INDEX NAME)



IT 13530-65-9, Zinc chromate

RL: USES (Uses)

(rustproofing pigments, in undercoating compns.)

RN 13530-65-9 HCAPLUS

CN Chromic acid (H<sub>2</sub>CrO<sub>4</sub>), zinc salt (1:1) (CA INDEX NAME)

● Zn

IT 110585-87-0

RL: USES (Uses)

(undercoatings containing rustproofing pigments and)

RN 110585-87-0 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane and Sumidur N 75 (9CI) (CA INDEX NAME)

CM 1

CRN 72429-63-1

CMF Unspecified

CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 106-89-8

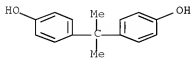
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



IT 7864-33-2, Phosphoric acid, uses and miscellaneous

RL: USES (Uses)

(undercoatings containing, anticorrosive)



RN 7664-38-2 HCAPLUS  
 CN Phosphoric acid (CA INDEX NAME)



=> => d his

(FILE 'HOME' ENTERED AT 15:26:06 ON 01 OCT 2007)  
 SET COST OFF

FILE 'HCAPLUS' ENTERED AT 15:26:53 ON 01 OCT 2007

L1 1 S US20060141230/PN OR (US2005-559641# OR WO2004-JP8650 OR JP200  
 SEL RN

FILE 'REGISTRY' ENTERED AT 15:28:31 ON 01 OCT 2007

L2 36 S E1-E36  
 L3 1 S L2 AND STEEL  
 L4 7 S L2 AND ((ZN OR AL)/ELS OR ZINC OR ALUMIN?)  
 L5 4 S L2 AND (P OR F)/ELS  
 L6 6 S L2 AND 46.150.18/RID AND PMS/CI  
 L7 1 S 174514-92-2  
 L8 1 S 124671-40-5  
 L9 18 S L2 NOT L3-L6  
 L10 10 S L9 AND PMS/CI  
 L11 1 S 214832-30-1  
 L12 8 S L9 NOT L10  
 L13 28725 S 80-05-7/CRN  
 L14 19110 S L13 AND OC2/ES  
 L15 2697 S (ISOCYAN? OR DIISOCYAN? OR TRIISOCYAN? OR POLYISOCYAN?)/ENTE  
 SEL RN  
 DEL SEL  
 L16 19 S E1-E750/CRN AND L14  
 SEL RN L15 741-1500  
 DEL SEL  
 SEL RN L15 751-1500  
 L17 109 S E1-E750/CRN AND L14  
 DEL SEL  
 SEL RN L15 1501-2250  
 L18 137 S E1-E750/CRN AND L14  
 DEL SEL  
 SEL RN L15 2251-2697  
 L19 316 S E1-E447/CRN AND L14  
 L20 9171 S (URETHAN? OR POLYURETHAN?)/ENTE  
 DEL SEL  
 SEL RN 1-1000  
 DEL SEL  
 SEL RN 1-900  
 L21 8 S E1-E900/CRN AND L14  
 DEL SEL  
 SEL RN L20 901-1800  
 L22 3 S E1-E900/CRN AND L14

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      DEL SEL
      SEL RN L20 1801-2700
L23      4 S E1-E900/CRN AND L14
      DEL SEL
      SEL RN L20 2701-3600
L24      21 S E1-E900/CRN AND L14
      DEL SEL
      SEL RN L20 3601-4500
L25      21 S E1-E900/CRN AND L14
      DEL SEL
      SEL RN L20 4501-5400
L26      14 S E1-E900/CRN AND L14
      DEL SEL
      SEL RN L20 5401-6300
L27      15 S E1-E900/CRN AND L14
      DEL SEL
      SEL RN L20 6301-7200
L28      46 S E1-E900/CRN AND L14
      DEL SEL
      SEL RN L20 7201-8100
L29      42 S E1-E900/CRN AND L14
      DEL SEL
      SEL RN L20 8101-9000
L30      99 S E1-E900/CRN AND L14
      DEL SEL
      SEL RN L20 9001-9171
L31      98 S E1-E171/CRN AND L14
L32      361 S L21-L31
L33      572 S L16-L19
L34      1 S L10 AND CH2O
L35      6 S L6 NOT 33830-06-7
L36      796 S L32-L35
L37      1388 S BISPHENOL?/ENTE
L38      921 S L37 AND EPOXY?/ENTE
      SEL RN
      DEL SEL
      SEL RN L38
L39      1697 S E1-E921/CRN AND N/ELS
L40      2 S L38 AND (ISOCYAN? OR DIISOCYAN? OR TRIISOCYAN? OR POLYISOCYAN
L41      17 S L38 AND (URETHAN? OR POLYURETHAN?)/ENTE
L42      19 S L40,L41
L43      2493 S L36,L39,L42
      SAV TEMP L43 LAVILLA449A/A

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FILE 'HCAPLUS' ENTERED AT 16:21:29 ON 01 OCT 2007

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L44      1990 S L43
L45      283 S L44 AND STEEL
L46      113 S L44 AND L3
      E STEEL/CT
L47      57 S L44 AND STEEL?/CT,CW
      E E3+ALL
L48      136 S L44 AND E5+NT
L49      283 S L45-L48
L50      11 S L49 AND PY<=2004 NOT P/DT
L51      255 S L49 AND (PD<=20040614 OR PRD<=20040614) AND P
L52      266 S L50,L51
L53      13 S L4 AND L52

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FILE 'REGISTRY' ENTERED AT 16:23:44 ON 01 OCT 2007

FILE 'HCAPLUS' ENTERED AT 16:23:44 ON 01 OCT 2007  
L54 TRA L52 1- RN : 1905 TERMS

FILE 'REGISTRY' ENTERED AT 16:23:53 ON 01 OCT 2007  
L55 1905 SEA L54  
L56 57 S L55 AND (ZN/ELS OR ZINC OR 7440-66-6/CRN)  
L57 48 S L55 AND (AL/ELS OR ALUMIN? OR 7429-90-5/CRN)  
L58 82 S L56,L57

FILE 'HCAPLUS' ENTERED AT 16:25:06 ON 01 OCT 2007  
L59 85 S L58 AND L52  
L60 85 S L53,L59  
L61 15 S L60 AND L5

FILE 'REGISTRY' ENTERED AT 16:25:38 ON 01 OCT 2007  
L62 9 S L55 AND 6/F  
L63 6 S L62 NOT L5  
L64 83 S L55 AND SI/ELS  
L65 62 S L64 NOT PMS/CI  
L66 30 S L65 NOT (AYS OR TIS)/CI  
L67 29 S L66 NOT F6SI

FILE 'HCAPLUS' ENTERED AT 16:27:25 ON 01 OCT 2007  
L68 12 S L67,L12 AND L61  
L69 15 S L61,L68  
L70 15 S L1,L69  
L71 4 S L70 AND JFE?/PA,CS,CO  
L72 5 S L70 AND (MIYOSHI ? OR SASAKI ? OR YOSHIMI ? OR MATSUZAKI ? OR  
L73 0 S L70 AND (TATSUYA ? OR KENICHI ? OR NAOTO ? OR AKIRA ? OR KAZU  
L74 15 S L70-L73

FILE 'HCAPLUS' ENTERED AT 16:29:21 ON 01 OCT 2007  
DEL LAVILLA449A/A  
SAV TEMP L74 LAVILLA559A/A  
SEL HIT RN

FILE 'REGISTRY' ENTERED AT 16:30:56 ON 01 OCT 2007  
L75 66 S E1-E66  
SAV TEMP L43 LAVILLA559B/A  
L76 18 S L75 AND L43

=> => fil reg

FILE 'REGISTRY' ENTERED AT 08:34:34 ON 02 OCT 2007  
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PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
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STRUCTURE FILE UPDATES: 1 OCT 2007 HIGHEST RN 948988-82-7  
DICTIONARY FILE UPDATES: 1 OCT 2007 HIGHEST RN 948988-82-7

New CAS Information Use Policies, enter HELP USAGETERMS for details.

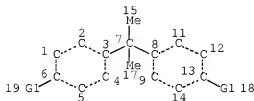
TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=> d sta que 113  
L1 STR



VAR Gl=O/X  
NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RSPEC 8 3  
NUMBER OF NODES IS 17

STEREO ATTRIBUTES: NONE  
L2 SCR 2043  
L4 65274 SEA FILE=REGISTRY SSS FUL L1 AND L2  
L5 29350 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND OC2/ES  
L6 2925 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND CH2O  
L7 13421 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND (C2H4O OR C3H6O OR C4H8O OR C5H10O OR C6H12O)  
L8 38913 SEA FILE=REGISTRY ABB=ON PLU=ON (L5 OR L6 OR L7)  
L11 STR



NODE ATTRIBUTES:  
CONNECT IS E1 RC AT 1  
CONNECT IS E2 RC AT 3  
CONNECT IS E2 RC AT 4  
CONNECT IS E1 RC AT 6  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE  
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100.0% PROCESSED 6329 ITERATIONS  
SEARCH TIME: 00.00.01

5777 ANSWERS

=> d his

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SET COST OFF

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L2 SCR 2043  
L3 50 S L1 AND L2  
L4 65274 S L1 AND L2 FUL  
L5 29350 S L4 AND OC2/ES  
L6 2925 S L4 AND CH2O  
L7 13421 S L4 AND (C2H4O OR C3H6O OR C4H8O OR C5H10O OR C6H12O)  
L8 38913 S L5-L7  
L9 18970 S L8 AND N/ELS  
L10 1692 S L8 AND NCNCNC/ES  
L11 STR  
L12 50 S L11 SAM SUB=L8  
L13 5777 S L11 FUL SUB=L8  
SAV TEMP L13 LAVILLA559C/A  
L14 1386 S L10 NOT L13  
L15 1 S 12597-69-2  
L16 96307 S STEEL  
L17 96306 S L16 NOT L15  
L18 8978 S L8 AND UNSPECIFIED  
L19 9325 S L9 NOT L10,L13,L18

FILE 'HCAPLUS' ENTERED AT 07:34:31 ON 02 OCT 2007

L20 3584 S L13  
L21 859 S L14  
L22 6051 S L18  
L23 12204 S L19  
L24 221872 S L15  
L25 743006 S STEEL  
L26 21866 S STEEL?/CT,CW  
E STEEL/CT  
E E3+ALL  
L27 332682 S E5+NT  
E E54+ALL  
E E14+ALL  
L28 12496 S E4+OLD  
L29 4497 S L26 NOT L27,L28  
L30 1786 S L20-L23 AND L24-L29  
L31 6696 S L20-L23 AND PY<=2004 NOT P/DT  
L32 11614 S L20-L23 AND (PD<=20040614 OR PRD<=20040614 OR AD<=20040614) A  
L33 18310 S L31,L32  
L34 1650 S L33 AND L30  
L35 336 S L17 AND L33  
L36 1797 S L34,L35

FILE 'REGISTRY' ENTERED AT 07:39:54 ON 02 OCT 2007

FILE 'HCAPLUS' ENTERED AT 07:39:56 ON 02 OCT 2007

L37 TRA L36 1- RN : 8945 TERMS

FILE 'REGISTRY' ENTERED AT 07:40:38 ON 02 OCT 2007

L38 8945 SEA L37

L39 1 S L38 AND 7664-38-2  
 L40 27 S L38 AND 6/F  
 L41 16 S L40 NOT PMS/CI  
 L42 7 S L41 AND 2/NC AND NR>=1  
 L43 9 S L41 NOT L42  
 L44 7 S L43 NOT C6/ES  
 L45 6 S L44 NOT C4HF6NO3  
 L46 126 S L38 AND SI/ELS NOT (PMS OR AYS OR TIS OR CCS)/CI  
 L47 39 S L46 AND NC>=2  
 L48 7 S L47 AND (H4O4SI OR H2O3SI)  
 L49 87 S L46 NOT L47  
 L50 84 S L49 NOT O2SI  
 L51 83 S L50 NOT SI/MF  
 L52 234 S L38 AND (ZN OR AL)/ELS  
 L53 232 S L38 AND (ZINC OR ALUMIN?)  
 L54 142 S L38 AND (7440-66-6 OR 7429-90-5)/CRN  
 L55 240 S L52-L54  
 L56 97 S L55 NOT (AYS OR TIS)/CI  
 L57 70 S L56 NOT (PMS OR CCS)/CI  
 L58 27 S L56 NOT L57  
 L59 143 S L55 NOT L56  
 L60 140 S L59 NOT L17

FILE 'HCAPLUS' ENTERED AT 07:50:19 ON 02 OCT 2007

L61 40 S L39,L45 AND L36  
 L62 143 S L48,L51 AND L36  
 L63 140 S L60 AND L36  
 L64 24 S L61 AND L62,L63  
 L65 16 S L62 AND L63  
 L66 31 S L64,L65  
 L67 47 S L61,L66  
 L68 4 S L67 NOT ?EPOX?  
 SEL AN 2  
 L69 1 S E1-E2 AND L68  
 L70 43 S L67 NOT L68  
 SEL HIT RN

FILE 'REGISTRY' ENTERED AT 08:06:17 ON 02 OCT 2007

L71 165 S E3-E167  
 L72 88 S L71 AND L8  
 L73 29 S L72 AND L13  
 L74 15 S L72 AND L14  
 L75 49 S L72 AND L18,L19  
 L76 7 S L74 NOT (P OR S)/ELS  
 L77 31 S L75 AND UNSPECIFIED  
 L78 24 S L77 NOT 502-44-3/CRN  
 L79 22 S L78 NOT C6H6O  
 L80 21 S L79 NOT C3H4O2  
 L81 20 S L80 NOT C8H6O4  
 L82 18 S L81 NOT C2H4N4  
 SEL RN 9-12 17  
 L83 13 S L82 NOT E168-E172  
 SEL RN L76 4  
 L84 1 S E173  
 L85 7 S L73 NOT C6H10O2  
 L86 6 S L85 NOT C5H12O2  
 L87 4 S L86 NOT N2CNC/ES  
 L88 23 S L78 NOT L87  
 L89 11 S L88 NOT L83,L84  
 L90 16 S L83,L84,L87

L91 12 S 124057-69-8 OR 112154-00-4 OR 72429-63-1 OR 120299-87-8 OR 19  
 L92 4 S L90 AND (72429-63-1 OR 199876-59-0 OR 174514-92-2 OR 124671-4  
 L93 4 S L91 AND (72429-63-1 OR 199876-59-0 OR 174514-92-2 OR 124671-4  
 L94 1 S 66810-89-7  
 L95 7 S L87,L92

FILE 'HCAPLUS' ENTERED AT 08:28:31 ON 02 OCT 2007

L96 27 S L95  
 L97 0 S L96 AND PY<=2004 NOT P/DT  
 L98 22 S L96 AND (PD<=20040614 OR PRD<=20040614 OR AD<=20040614) AND P  
 L99 16 S L98 AND STEEL  
 L100 10 S L98 AND STEEL?/CW,CT  
 L101 16 S L98 AND L25-L28  
 L102 8 S L98 AND L15  
 SEL RN L98

FILE 'REGISTRY' ENTERED AT 08:30:10 ON 02 OCT 2007

L103 228 S E174-E401  
 L104 3 S L103 AND L16

FILE 'HCAPLUS' ENTERED AT 08:30:37 ON 02 OCT 2007

L105 10 S L104 AND L98  
 L106 17 S L99-L102,L105  
 L107 5 S L98 NOT L106

FILE 'REGISTRY' ENTERED AT 08:31:53 ON 02 OCT 2007

L108 35 S L103 AND ((ZN OR AL)/ELS OR ZINC OR ALUMIN? OR (7440-66-6 OR  
 L109 27 S L108 AND (AYS OR TIS)/CI  
 L110 1 S L103 AND L39  
 L111 4 S L103 AND 6/F  
 L112 10 S L103 AND SI/ELS NOT (STEEL OR (AYS OR TIS OR PMS)/CI)  
 L113 8 S L112 NOT (F6SI OR O2SI)

FILE 'HCAPLUS' ENTERED AT 08:33:51 ON 02 OCT 2007

L114 11 S L98 AND L104,L110,L111,L113  
 L115 10 S L98 AND L109  
 L116 22 S L98-L102,L105-L107,L114-L115

FILE 'REGISTRY' ENTERED AT 08:34:34 ON 02 OCT 2007

=> fil hcaplus

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FILE COVERS 1907 - 2 Oct 2007 VOL 147 ISS 15  
 FILE LAST UPDATED: 1 Oct 2007 (20071001/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d l116 bib abs hitind hitstr retable tot

L116 ANSWER 1 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2005:1240634 HCAPLUS Full-text

DN 143:479459

TI Highly corrosion-resistant compositions for coating non-chromated steel surface without interfering the welding ability and their formation

IN Sasaki, Kenichi; Miyoshi, Tatsuya; Yoshimi, Naoto

PA JFE Steel Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 58 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005325427	A	20051124	JP 2004-146335	20040517 <--
PRAI	JP 2004-146335		20040517	<--	

AB The steel (particularly automobile panel) surface is coated by a base layer and a top layer where the base layer is obtained from: (a) the reaction product of the condensation product of a polyalkylene glycol having specific mol. weight, a bisphenol-type epoxy resin, a compound containing active H and a polyisocyanate with an epoxy resin and an active H-containing hydrazine derivative in aqueous dispersion, (b) silane coupler, and (c) phosphoric acid or/and hexafluorometallic acid, and the top layer is obtained from epoxy group-containing resins having Mn 6000-20,000, Cr-free corrosion inhibitors, lubricants having mol. weight of <5000 and elec. conductive pigments.

IC ICM C23C0022-07

ICS C23C0022-22; C23C0022-36; C23C0022-42; C23C0028-00

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 55

ST corrosion resistant base coat top coat multilayer coating steel; welding property steel coating anticorrosive polyalkylene glycol epoxy resin; hydrazine deriv reaction modified epoxy resin coating steel; automobile panel steel anticorrosive coating polyisocyanate polyoxyalkylene epoxy resin

IT Coating materials

(anticorrosive; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)

IT Automobiles

(bodies; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)

IT Silanes

RL: MOA (Modifier or additive use); USES (Uses)

(coupling agents; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)

IT Polyoxyalkylenes, uses

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(epoxy; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)

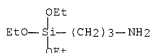


- formation)
- IT Coupling agents  
(highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT Aminoplasts  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT Epoxy resins, uses  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(polyoxyalkylene-; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT Galvanized steel  
RL: TEM (Technical or engineered material use); USES (Uses)  
(substrate; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT 97-77-8, Tetraethylthiuram disulfide 7631-86-9, Silica, uses 29196-72-3, Aluminum tripolyphosphate 130638-76-5, Aluminum phosphomolybdate  
RL: MOA (Modifier or additive use); USES (Uses)  
(corrosion inhibitor; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT 919-30-2, KBE 903 1760-24-3, KBM 603 2530-83-8, KBM 403 2602-34-8, KBE 403 2897-60-1, KBM 402 3069-29-2, KBM 602  
RL: MOA (Modifier or additive use); USES (Uses)  
(coupling agent; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT 822-06-0, HMDI 4098-71-9, IPDI 9003-08-1, Melamine resin 93919-05-2, Desmodur BL-3175 124671-40-5, Takenate B 870N 174514-92-2, Duranate MF-B 80M  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(crosslinker; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT 7664-38-2, Phosphoric acid, uses 12021-95-3 16961-83-4, Hexafluorosilicic acid 17439-11-1, Hexafluorotitanic acid  
RL: CAT (Catalyst use); USES (Uses)  
(highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT 67-51-6DP, 3,5-Dimethylpyrazole, reaction products with epoxy resins 25068-38-6DP, Epikote 828, reaction products with pyrazole 25068-38-6P, Epikote 828 507271-32-1P, Bisphenol A-epichlorohydrin-Duranate MFK60X-polyethylene glycol-TDI copolymer 869804-46-6P, 3-Amino-1,2,4-triazole-bisphenol A-epichlorohydrin-Duranate MF-K 60X-polyethylene glycol-TDI copolymer 869804-47-7P, 3-Amino-1,2,4-triazole-Epikote 1256 copolymer  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(highly corrosion-resistant compns. for coating non-chromated

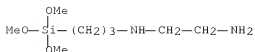
- steel surface without interfering welding ability and their formation)
- IT 214832-30-1, Epikote 1256  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT 12597-69-2, Steel, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (plated substrate; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT 111-90-0, Diethylene glycol monoethyl ether  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (temporary blocking agent; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- IT 130638-76-5, Aluminum phosphomolybdate  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (corrosion inhibitor; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- RN 130638-76-5 HCAPLUS
- CN Aluminum molybdenum hydroxide oxide phosphate (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
HO	x	14280-30-9
O4P	x	14265-44-2
Mo	x	7439-98-7
Al	x	7429-90-5

- IT 919-30-2, KBE 903 1760-24-3, KBM 603 2530-33-8  
 , KBM 403 2602-34-8, KBE 403 2897-60-1, KBM 402 3069-29-2, KBM 602  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (coupling agent; highly corrosion-resistant compns. for coating non-chromated steel surface without interfering welding ability and their formation)
- RN 919-30-2 HCAPLUS
- CN 1-Propanamine, 3-(triethoxysilyl)- (CA INDEX NAME)

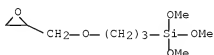


- RN 1760-24-3 HCAPLUS
- CN 1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]- (CA INDEX NAME)



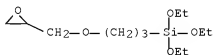
RN 2530-83-8 HCAPLUS

CN Oxirane, 2-[[3-(trimethoxysilyl)propoxy)methyl]- (CA INDEX NAME)



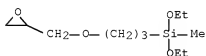
RN 2602-34-8 HCAPLUS

CN Oxirane, 2-[[3-(triethoxysilyl)propoxy)methyl]- (CA INDEX NAME)



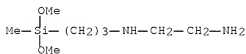
RN 2897-60-1 HCAPLUS

CN Oxirane, 2-[[3-(diethoxymethylsilyl)propoxy)methyl]- (CA INDEX NAME)



RN 3069-29-2 HCAPLUS

CN 1,2-Ethanediamine, N1-[3-(dimethoxymethylsilyl)propyl]- (CA INDEX NAME)



IT 7664-38-2, Phosphoric acid, uses 12021-95-3  
 16961-83-4, Hexafluorosilicic acid 17439-11-1,  
 Hexafluorotitanic acid

RL: CAT (Catalyst use); USES (Uses)

(highly corrosion-resistant compns. for coating non-chromated  
 steel surface without interfering welding ability and their  
 formation)

RN 7664-38-2 HCAPLUS

CN Phosphoric acid (CA INDEX NAME)



RN 12021-95-3 HCAPLUS

CN Zirconate(2-), hexafluoro-, hydrogen (1:2), (OC-6-11)- (CA INDEX NAME)



RN 16961-83-4 HCAPLUS

CN Silicate(2-), hexafluoro-, hydrogen (1:2) (CA INDEX NAME)



RN 17439-11-1 HCAPLUS

CN Titanate(2-), hexafluoro-, hydrogen (1:2), (OC-6-11)- (CA INDEX NAME)



IT 507271-32-1P, Bisphenol A-epichlorohydrin-Duranate  
 MFK60X-polyethylene glycol-TDI copolymer  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)  
 (highly corrosion-resistant compns. for coating non-chromated  
 steel surface without interfering welding ability and their  
 formation)

RN 507271-32-1 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane,  
 1,3-diisocyanatomethylbenzene, Duranate MF-K 60X and  $\alpha$ -hydro- $\omega$ -  
 hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 199876-59-0

CMF Unspecified

CCI PMS, MAN

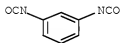
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



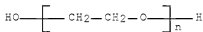
D1-Me

CM 3

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

CCI PMS



CM 4

CRN 106-89-8

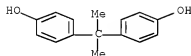
CMF C3 H5 Cl O



CM 5

CRN 80-05-7

CMF C15 H16 O2



IT 12597-69-2, Steel, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
 (plated substrate; highly corrosion-resistant compns. for coating  
 non-chromated steel surface without interfering welding  
 ability and their formation)

RN 12597-69-2 HCAPLUS

CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L116 ANSWER 2 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2004:1127448 HCAPLUS [Full-text](#)

DN 142:58372

TI Highly corrosion-resistant surface-treated steel sheet and  
 method for producing same

IN Miyoshi, Tatsuya; Sasaki, Kenichi; Yoshimi, Naoto; Matsuzaki, Akira; Okai,  
 Kazuhisa; Ooshima, Takao; Nakano, Takashi; Murata, Masahiro; Tanaka,  
 Syoichi

PA JFE Steel Corporation, Japan; Kansai Paint Co., Ltd.

SO PCT Int. Appl., 122 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004111141	A1	20041223	WO 2004-JP8650	20040614 <---
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	JP 2006002167	A	20060105	JP 2004-173337	20040611 <---

EP 1634932	Al	20060315	EP 2004-736805	20040614 <--
R: DE, FR, GB				
CN 1836016	A	20060920	CN 2004-80023517	20040614 <--
US 2006141230	Al	20060629	US 2005-559641	20051202 <--
PRAI JP 2003-171344	A	20030616	<--	
JP 2004-146334	A	20040517	<--	
WO 2004-JP8650	W	20040614	<--	

AB A surface-treated steel sheet is disclosed which comprises a zinc-plated steel sheet, a surface treatment film formed on the surface of the zinc-plated steel sheet by applying a surface treatment composition to the steel sheet and drying it, and an upper coating film formed over the surface treatment film by applying a coating composition for the upper coating film over the surface treatment film and drying it. The surface treatment composition contains an aqueous epoxy resin dispersion, a silane coupling agent, and a phosphoric acid and/or a fluorometallic acid. The coating composition for the upper coating film contains a high mol. weight, epoxy group-containing resin having a number-average mol. weight of 6000-20,000.

IC ICM C09D0163-00  
ICS C09D0175-00; C23C0028-04

CC 42-10 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 55

ST zinc plated steel sheet anticorrosive coating epoxy resin dispersion; silane coupling agent epoxy dispersion coating steel sheet; phosphoric acid epoxy dispersion anticorrosive coating steel sheet; fluorometallic acid epoxy dispersion anticorrosive coating steel sheet

IT Coating materials  
(anticorrosive; coatings for manufacture of highly corrosion-resistant surface-treated steel sheets)

IT Coupling agents  
(coatings for manufacture of highly corrosion-resistant surface-treated steel sheets)

IT Polyurethanes, uses  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(coatings for manufacture of highly corrosion-resistant surface-treated steel sheets)

IT Polyoxymethylenes, uses  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(epoxy; coatings for manufacture of highly corrosion-resistant surface-treated steel sheets)

IT Epoxy resins, uses  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polyoxymethylene; coatings for manufacture of highly corrosion-resistant surface-treated steel sheets)

IT Silanes  
RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
(silanes; coatings for manufacture of highly corrosion-resistant surface-treated steel sheets)

IT Galvanized steel  
RL: MSC (Miscellaneous)  
(substrate; coatings for manufacture of highly corrosion-resistant surface-treated steel sheets)

IT 38830-06-7P, Bisphenol A-diethanolamine-epichlorohydrin copolymer  
85023-89-8P, Bisphenol A;epichlorohydrin;formaldehyde;melamine copolymer

134291-65-9P, Bisphenol A-epichlorohydrin-Takenate B 870N  
 copolymer 184015-80-3P 247223-93-4P  
 507271-32-1P, Bisphenol A-Duramate MFK60X-epichlorohydrin-  
 polyethylene glycol-TDI copolymer 811448-86-9P 811448-87-0P  
 811448-88-1P 811448-89-2P, Epikote 1256-formaldehyde-melamine copolymer  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)  
 (coatings for manufacture of highly corrosion-resistant surface-treated  
 steel sheets)

IT 7664-38-2, Phosphoric acid, uses 12021-95-3  
 16961-83-4, Hexafluorosilicic acid 17439-11-1,  
 Hexafluorotitanic acid  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (coatings for manufacture of highly corrosion-resistant surface-treated  
 steel sheets)

IT 168679-90-1, Permarin UC 20 190606-09-8, Takelac W 635 392315-60-5,  
 Superflex 600 443919-87-7, Superflex E 2500 740843-34-9, Ucoat UX 2505  
 745031-19-0, Adeka Bon-Tighter UX 206  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
 engineered material use); USES (Uses)  
 (coatings for manufacture of highly corrosion-resistant surface-treated  
 steel sheets)

IT 919-30-2, KBE 903 1760-24-3, KBM 603 2530-83-8  
 , KBM 403 2602-34-8, KBE 403 2897-60-1, KBE 402  
 3069-29-2, KBM 602 5089-72-5, KBE 603 13822-56-5  
 , KBM 903  
 RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or  
 reagent); USES (Uses)  
 (coupler; coatings for manufacture of highly corrosion-resistant  
 surface-treated steel sheets)

IT 11149-84-1 12609-49-3 52360-06-2  
 58465-32-0 112964-43-9 142240-64-0  
 208469-25-4  
 RL: MSC (Miscellaneous)  
 (plating on steel; coatings for manufacture of highly  
 corrosion-resistant surface-treated steel sheets)

IT 12597-69-2, Steel, miscellaneous  
 RL: MSC (Miscellaneous)  
 (substrate, Zn alloy-plated; coatings for manufacture of highly  
 corrosion-resistant surface-treated steel sheets)

IT 134291-65-9P, Bisphenol A-epichlorohydrin-Takenate B 870N  
 copolymer 184015-80-3P 247223-93-4P  
 507271-32-1P, Bisphenol A-Duramate MFK60X-epichlorohydrin-  
 polyethylene glycol-TDI copolymer  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)  
 (coatings for manufacture of highly corrosion-resistant surface-treated  
 steel sheets)

RN 134291-65-9 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-  
 (chloromethyl)oxirane and Takenate B 870N (CA INDEX NAME)

CM 1

CRN 124671-40-5  
 CMF Unspecified  
 CCI MAN

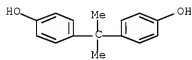


\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2  
 CRN 106-89-8  
 CMF C3 H5 Cl O



CM 3  
 CRN 80-05-7  
 CMF C15 H16 O2



RN 184015-80-3 HCAPLUS  
 CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane and Duranate MF-B 80M (CA INDEX NAME)

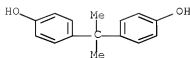
CM 1  
 CRN 174514-92-2  
 CMF Unspecified  
 CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2  
 CRN 106-89-8  
 CMF C3 H5 Cl O



CM 3  
 CRN 80-05-7  
 CMF C15 H16 O2



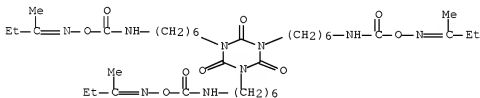
RN 247223-93-4 HCAPLUS

CN 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris[6-[[[(1-methylpropylidene)amino]oxy]carbonyl]amino]hexyl]-, polymer with 2-(chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol] (CA INDEX NAME)

CM 1

CRN 93919-05-2

CMF C36 H63 N9 O9



CM 2

CRN 106-89-8

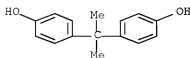
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



RN 507271-32-1 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane, 1,3-diisocyanatomethylbenzene, Duranate MF-K 60X and  $\alpha$ -hydroxy- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 199876-59-0

CMF Unspecified

CCI PMS, MAN

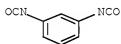
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



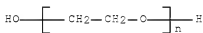
D1-Me

CM 3

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

CCI PMS



CM 4

CRN 106-89-8

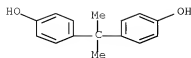
CMF C3 H5 Cl O



CM 5

CRN 80-05-7

CMF C15 H16 O2



IT 7664-38-2, Phosphoric acid, uses 12021-95-3  
 16961-83-4, Hexafluorosilicic acid 17439-11-1,  
 Hexafluorotitanic acid  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (coatings for manufacture of highly corrosion-resistant surface-treated  
 steel sheets)  
 RN 7664-38-2 HCAPLUS  
 CN Phosphoric acid (CA INDEX NAME)



RN 12021-95-3 HCAPLUS  
 CN Zirconate(2-), hexafluoro-, hydrogen (1:2), (OC-6-11)- (CA INDEX NAME)



● 2 H<sup>+</sup>

RN 16961-83-4 HCAPLUS  
 CN Silicate(2-), hexafluoro-, hydrogen (1:2) (CA INDEX NAME)



● 2 H<sup>+</sup>

RN 17439-11-1 HCAPLUS  
 CN Titanate(2-), hexafluoro-, hydrogen (1:2), (OC-6-11)- (CA INDEX NAME)



● 2 H<sup>+</sup>

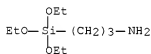
IT 519-30-2, KBE 903 1760-24-3, KBM 603 2530-83-8  
 , KBM 403 2602-34-8, KBE 403 2897-60-1, KBE 402  
 3069-29-2, KBM 602 5089-72-5, KBE 603 13822-56-5  
 , KBM 903

RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(coupler; coatings for manufacture of highly corrosion-resistant surface-treated steel sheets)

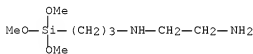
RN 919-30-2 HCAPLUS

CN 1-Propanamine, 3-(triethoxysilyl)- (CA INDEX NAME)



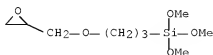
RN 1760-24-3 HCAPLUS

CN 1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]- (CA INDEX NAME)



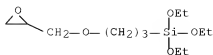
RN 2530-83-8 HCAPLUS

CN Oxirane, 2-[[3-(trimethoxysilyl)propoxy]methyl]- (CA INDEX NAME)



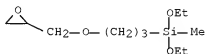
RN 2602-34-8 HCAPLUS

CN Oxirane, 2-[[3-(triethoxysilyl)propoxy]methyl]- (CA INDEX NAME)



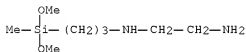
RN 2897-60-1 HCAPLUS

CN Oxirane, 2-[[3-(diethoxymethylsilyl)propoxy)methyl]- (CA INDEX NAME)



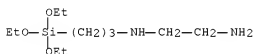
RN 3069-29-2 HCAPLUS

CN 1,2-Ethanediamine, N1-[3-(dimethoxymethylsilyl)propyl]- (CA INDEX NAME)



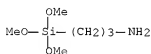
RN 5089-72-5 HCAPLUS

CN 1,2-Ethanediamine, N1-[3-(triethoxysilyl)propyl]- (CA INDEX NAME)



RN 13822-56-5 HCAPLUS

CN 1-Propanamine, 3-(trimethoxysilyl)- (CA INDEX NAME)



IT 11144-84-1 12639-49-3 52368-06-2  
 58465-32-0 112964-43-9 142240-64-0  
 268469-25-4

RL: MSC (Miscellaneous)

(plating on steel; coatings for manufacture of highly  
 corrosion-resistant surface-treated steel sheets)

RN 11149-84-1 HCAPLUS

CN Aluminum alloy, nonbase, Al,Zn (CA INDEX NAME)

Component	Component Registry Number
-----------	------------------------------

=====+=====

Al	7429-90-5
Zn	7440-66-6

RN 12609-49-3 HCAPLUS

CN Aluminum alloy, base, Al 94,Si 6 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
-----------	----------------------	------------------------------

=====+=====

Al	94	7429-90-5
Si	6	7440-21-3

RN 52360-06-2 HCAPLUS

CN Zinc alloy, base, Zn 88,Ni 12 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
-----------	----------------------	------------------------------

=====+=====

Zn	88	7440-66-6
Ni	12	7440-02-0

RN 58465-32-0 HCAPLUS

CN Zinc alloy, base, Zn 90,Fe 10 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
-----------	----------------------	------------------------------

=====+=====

Zn	90	7440-66-6
Fe	10	7439-89-6

RN 112964-43-9 HCAPLUS

CN Zinc alloy, base, Zn 100,Mg 0.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
-----------	----------------------	------------------------------

=====+=====

Zn	100	7440-66-6
Mg	0.5	7439-95-4

RN 142240-64-0 HCAPLUS

CN Zinc alloy, base, Zn 94,Al 5,Mg 0.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
-----------	----------------------	------------------------------

=====+=====

Zn	94	7440-66-6
Al	5	7429-90-5
Mg	0.5	7439-95-4

RN 208469-25-4 HCAPLUS

CN Zinc alloy, base, Zn 91,Al 6,Mg 3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
-----------	----------------------	------------------------------

```
=====+=====+=====
Zn          91          7440-66-6
Al           6          7429-90-5
Mg           3          7439-95-4
```

IT 12597-69-2, Steel, miscellaneous  
 RL: MSC (Miscellaneous)  
 (substrate, Zn alloy-plated; coatings for manufacture of highly  
 corrosion-resistant surface-treated steel sheets)  
 RN 12597-69-2 HCAPLUS  
 CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RETABLER

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Kansai Paint Co Ltd	2001			JP 2001239517 A	HCAPLUS
Kansai Paint Co Ltd	2003			JP 200334713 A	
Nkk Corp	2001			JP 2001335965 A	HCAPLUS
Nkk Corp	2002			EP 129453 A1	
Nkk Corp	2002			WO 200192602 A1	
Nkk Corp	2002			JP 200253979 A	

L116 ANSWER 3 OF 22 HCAPLUS COPYRIGHT 2007 ACS ON STN

AN 2003:671348 HCAPLUS [Full-text](#)

DN 139:215906

TI Precoated steel plates having press moldability and corrosion  
 resistance and production methods therefor

IN Tanaka, Yuichiro; Miyoshi, Tatsuya; Kawada, Akira; Okai, Kazuhisa;  
 Matsuzaki, Akira; Yoshimi, Naoto; Kubota, Takahiro; Yamashita, Masaaki

PA JFE Steel Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 34 pp.

CODEN: JXXXXF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003239081	A	20030827	JP 2002-38985	20020215 <--
JP 3982277	B2	20070926		
PRAI JP 2002-38985		20020215 <--		

AB Coating materials contain aqueous epoxy resin dispersion prepared from  
 polyalkylene glycol-modified epoxy resins, other epoxy resins, H-containing  
 hydrazine derivs., and other active H compds., silane coupling agents,  
 phosphoric acid and/or hexafluoro metal acids, and coating materials on the  
 top contain ≥2 solvent-type thermosetting resins having different glass  
 transition temps., a solid lubricant (polyethylene), and nonchromium  
 rustproofing agents. Thus, a bottom coating material on galvanized steel  
 contained a reaction product of Epikote 834X90-polyethylene glycol-TDI  
 copolymer with EP 1004 (an epoxy resin), 3-amino-1,2,4-triazole, and MF-K 60X  
 100, KBE 903 5, and H3PO4 40 parts.

IC ICM C23C0028-00

ICS B05D0005-00; C23C0022-07; C23C0022-34

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 55, 56

ST epoxy coating steel press molding corrosion resistance;

polyoxyalkylene epoxy resin reaction product coating steel

IT Polyesters, uses

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP



- (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (aliphatic, polymers with glycols and polyisocyanates; polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)
- IT Silanes  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (amino; polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)
- IT Coating materials  
 (anticorrosive; polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)
- IT Polyesters, uses  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (aromatic, polymers with glycols and polyisocyanates; polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)
- IT Silanes  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (coupling agents; polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)
- IT Silanes  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (epoxy; polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)
- IT Coupling agents  
 Crosslinking agents  
 Lubricants  
 (polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)
- IT Phosphates, uses  
 Thiols, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)
- IT Galvanized steel  
 RL: MSC (Miscellaneous)  
 (polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)
- IT Alloys, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)
- IT Metals, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)
- IT Polyurethanes, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)

- (polyester-; polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)
- IT Polyurethanes, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (polyether-; polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)
- IT Molding  
 (press; polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)
- IT Rust (iron oxide)  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (proofing agents; polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)
- IT Polyoxyalkylenes, preparation  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (reaction products with epoxy resins; polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)
- IT Epoxy resins, preparation  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (reaction products with polyoxyalkylenes; polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)
- IT Amines, uses  
 Epoxides  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (silyl; polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)
- IT 9002-88-4, Luvax 1151  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (Luvax 1151; polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)
- IT 61-82-5DP, 3-Amino-1,2,4-triazole, reaction products with epoxy resins and polyethylene glycol-modified epoxy resins 101-68-8DP, MDI, polymers with glycols and polyesters 107-88-0DP, 1,3-Butanediol, polymers with polyesters and polyisocyanates 110-63-4DP, 1,4-Butanediol, polymers with polyesters and polyisocyanates 4098-71-9DP, IPDI, polymers with glycols and polyesters 25068-38-6DP, EP 1004, reaction products with aminotriazole and polyethylene glycol-modified epoxy resins 92488-61-4DP, reaction products with aminotriazole and epoxy resins  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)
- IT 92488-61-4F  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and

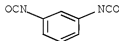
- corrosion resistance)
- IT 919-30-2, KBE 903 1760-24-3, KBM 603 2530-23-8  
 , KBM 403 2602-34-8, KBE 403 2897-60-1, KBM 402  
 3069-29-2, KBM 602 5089-72-5, KBE 603 7664-38-2  
 , Phosphoric acid, uses 7784-30-7, Aluminum phosphate 10043-83-1,  
 Magnesium phosphate 10124-54-6, Manganese phosphate 10381-36-9, Nickel  
 phosphate 12021-95-3, Hexafluorozirconic acid 13822-56-5  
 , KBM 903 16961-83-4, Hexafluorosilicic acid 17439-11-1  
 , Hexafluorotitanic acid 326588-96-9, MF K 60X  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (polyalkylene glycol-modified epoxy resins containing silanes for coating  
 materials on steel plates having press moldability and  
 corrosion resistance)
- IT 12597-69-2, Steel, miscellaneous  
 RL: MSC (Miscellaneous)  
 (polyalkylene glycol-modified epoxy resins containing silanes for coating  
 materials on steel plates having press moldability and  
 corrosion resistance)
- IT 7429-90-5, Aluminum, uses 7440-66-6, Zinc, uses 7631-86-9, Silica,  
 uses 12609-49-3 52308-11-9 52360-06-2  
 58465-32-0 96539-23-0 112964-43-9  
 115253-85-5 116903-21-0 119412-76-9  
 208469-25-4  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (polyalkylene glycol-modified epoxy resins containing silanes for coating  
 materials on steel plates having press moldability and  
 corrosion resistance)
- IT 92488-61-4DP, reaction products with aminotriazole and epoxy  
 resins  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)  
 (polyalkylene glycol-modified epoxy resins containing silanes for coating  
 materials on steel plates having press moldability and  
 corrosion resistance)
- RN 92488-61-4 HCAPLUS
- CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-  
 (chloromethyl)oxirane, 1,3-diisocyanatomethylbenzene and  
 $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) (CA INDEX NAME)

CM 1

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS

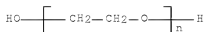


D1—Me

CM 2

CRN 25322-68-3

CMF (C2 H4 O)n H2 O  
CCI PMS



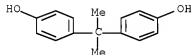
CM 3

CRN 106-89-8  
CMF C3 H5 Cl O



CM 4

CRN 80-05-7  
CMF C15 H16 O2



IT 92488-61-4F

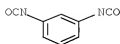
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)

RN 92488-61-4 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 1,3-diisocyanatomethylbenzene and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) (CA INDEX NAME)

CM 1

CRN 26471-62-5  
CMF C9 H6 N2 O2  
CCI IDS



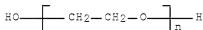
D1-Me

CM 2

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

CCI PMS



CM 3

CRN 106-89-8

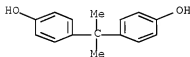
CMF C3 H5 Cl O



CM 4

CRN 80-05-7

CMF C15 H16 O2



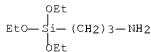
IT 919-30-2, KBE 903 1760-24-3, KBM 603 2530-33-8  
 , KBM 403 2602-34-8, KBE 403 2897-60-1, KBM 402  
 3063-29-2, KBM 602 5089-72-5, KBE 603 7664-38-2  
 , Phosphoric acid, uses 12021-95-3, Hexafluorozirconic acid  
 13822-56-5, KBM 903 16961-83-4, Hexafluorosilicic acid  
 17439-11-1, Hexafluorotitanic acid

RL: MOA (Modifier or additive use); USES (Uses)

(polyalkylene glycol-modified epoxy resins containing silanes for coating  
 materials on steel plates having press moldability and  
 corrosion resistance)

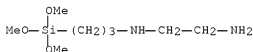
RN 919-30-2 HCAPLUS

CN 1-Propanamine, 3-(triethoxysilyl)- (CA INDEX NAME)



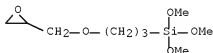
RN 1760-24-3 HCAPLUS

CN 1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]- (CA INDEX NAME)



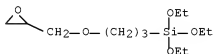
RN 2530-83-8 HCAPLUS

CN Oxirane, 2-[[3-(trimethoxysilyl)propoxy]methyl]- (CA INDEX NAME)



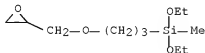
RN 2602-34-8 HCAPLUS

CN Oxirane, 2-[[3-(triethoxysilyl)propoxy]methyl]- (CA INDEX NAME)



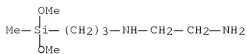
RN 2897-60-1 HCAPLUS

CN Oxirane, 2-[[3-(diethoxymethylsilyl)propoxy]methyl]- (CA INDEX NAME)



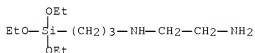
RN 3069-29-2 HCAPLUS

CN 1,2-Ethanediamine, N1-[3-(dimethoxymethylsilyl)propyl]- (CA INDEX NAME)



RN 5089-72-5 HCAPLUS

CN 1,2-Ethanediamine, N1-[3-(triethoxysilyl)propyl]- (CA INDEX NAME)



RN 7664-38-2 HCAPLUS

CN Phosphoric acid (CA INDEX NAME)



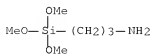
RN 12021-95-3 HCAPLUS

CN Zirconate(2-), hexafluoro-, hydrogen (1:2), (OC-6-11)- (CA INDEX NAME)

● 2 H<sup>+</sup>

RN 13822-56-5 HCAPLUS

CN 1-Propanamine, 3-(trimethoxysilyl)- (CA INDEX NAME)



RN 16961-83-4 HCAPLUS

CN Silicate(2-), hexafluoro-, hydrogen (1:2) (CA INDEX NAME)



● 2 H<sup>+</sup>

RN 17439-11-1 HCAPLUS  
CN Titanate(2-), hexafluoro-, hydrogen (1:2), (OC-6-11)- (CA INDEX NAME)



● 2 H<sup>+</sup>

IT 12597-69-2, Steel, miscellaneous  
RL: MSC (Miscellaneous)  
(polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)  
RN 12597-69-2 HCAPLUS  
CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*  
IT 12609-49-3 52308-11-9 52360-06-2  
58465-32-0 96539-23-0 112964-43-9  
115253-85-5 116903-21-0 119412-76-9  
208469-25-4  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polyalkylene glycol-modified epoxy resins containing silanes for coating materials on steel plates having press moldability and corrosion resistance)  
RN 12609-49-3 HCAPLUS  
CN Aluminum alloy, base, Al 94, Si 6 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	94	7429-90-5
Si	6	7440-21-3

RN 52308-11-9 HCAPLUS  
CN Aluminum alloy, base, Al 55, Zn 45 (CA INDEX NAME)



Component	Component Percent	Component Registry Number
Al	55	7429-90-5
Zn	45	7440-66-6

RN 52360-06-2 HCAPLUS  
 CN Zinc alloy, base, Zn 88, Ni 12 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	88	7440-66-6
Ni	12	7440-02-0

RN 58465-32-0 HCAPLUS  
 CN Zinc alloy, base, Zn 90, Fe 10 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	90	7440-66-6
Fe	10	7439-89-6

RN 96539-23-0 HCAPLUS  
 CN Aluminum alloy, base, Al 70, Mn 30 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	70	7429-90-5
Mn	30	7439-96-5

RN 112964-43-9 HCAPLUS  
 CN Zinc alloy, base, Zn 100, Mg 0.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	100	7440-66-6
Mg	0.5	7439-95-4

RN 115253-85-5 HCAPLUS  
 CN Zinc alloy, base, Zn 100, Co 0.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	100	7440-66-6
Co	0.5	7440-48-4

RN 116903-21-0 HCAPLUS  
 CN Magnesium alloy, base, Mg 94, Zn 5, Al 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Mg	94	7439-95-4
Zn	5	7440-66-6
Al	0.5	7429-90-5

RN 119412-76-9 HCAPLUS  
 CN Zinc alloy, base, Zn 88,Cr 12 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	88	7440-66-6
Cr	12	7440-47-3

RN 208469-25-4 HCAPLUS  
 CN Zinc alloy, base, Zn 91,Al 6,Mg 3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	91	7440-66-6
Al	6	7429-90-5
Mg	3	7439-95-4

L116 ANSWER 4 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:274972 HCAPLUS [Full-text](#)

DN 138:289090

TI Anticorrosive precoated steel sheets and manufacture thereof

IN Okai, Kazuhisa; Matsuzaki, Akira; Yoshimi, Naoto; Kubota, Takahiro; Yamashita, Masaaki; Noro, Hisato; Nakamichi, Jiro; Sato, Kaoru; Matsuki, Hiroyasu; Nishida, Reiji; Murata, Masahiro

PA NKK Corp., Japan; Kansai Paint Co., Ltd.; JFE Steel Corp.

SO Jpn. Kokai Tokkyo Koho, 36 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003105554	A	20030409	JP 2002-214579	20020723 <--
	JP 3665046	B2	20050629		
	WO 2004009870	A1	20040129	WO 2003-JP1531	20030214 <--
	W: CN, KR, US				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR				
	EP 1524332	A1	20050420	EP 2003-705145	20030214 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, CY, TR, BG, CZ, EE, HU, SK				
	CN 1671885	A	20050921	CN 2003-817687	20030214 <--
	TW 259216	B	20060801	TW 2003-92103114	20030214 <--
	US 2005147832	A1	20050707	US 2005-515303	20050124 <--
	JP 2005206947	A	20050804	JP 2005-29983	20050207 <--
PRAI	JP 2001-220912	A	20010723	<--	
	JP 2002-214579	A	20020723	<--	
	WO 2003-JP1531	W	20030214	<--	

AB Chromium-free coating compns. containing (a) water-dispersible and/or water-soluble resins which are reaction products of epoxy-containing resins and active H-containing compds. comprising hydrazine derivs., (b) silane coupling agents, and (c) H3PO4 and/or hexafluorometal acids (e.g., H2SiF6, H2TiF6) are applied on galvanized steel or aluminum-plated steel sheets to give a monolayer anticorrosive coating having a thickness of 0.02-5 µm.

IC ICM C23C0022-36

ICS C23C0022-00; C23C0022-42; C23C0028-00

- CC 42-9 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 55
- ST hydrazine epoxy resin reaction product anticorrosive coating steel sheet; silane coupling agent anticorrosive coating steel; hexafluoro metal acid anticorrosive coating steel
- IT Coating materials  
(anticorrosive, water-thinned; chromium-free anticorrosive coatings for plated steel sheets)
- IT Corrosion inhibitors  
(chromium-free anticorrosive coatings for plated steel sheets)
- IT Galvanized steel  
RL: MSC (Miscellaneous)  
(chromium-free anticorrosive coatings for plated steel sheets)
- IT Polyurethanes, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(epoxy-polyoxyalkylene-, reaction products with hydrazine derivs.; chromium-free anticorrosive coatings for plated steel sheets)
- IT Polyoxyalkylenes, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(epoxy-polyurethane-, reaction products with hydrazine derivs.; chromium-free anticorrosive coatings for plated steel sheets)
- IT Epoxy resins, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polyoxyalkylene-polyurethane-, reaction products with hydrazine derivs.; chromium-free anticorrosive coatings for plated steel sheets)
- IT Epoxy resins, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(reaction products, with hydrazine derivs.; chromium-free anticorrosive coatings for plated steel sheets)
- IT Coupling agents  
(silane; chromium-free anticorrosive coatings for plated steel sheets)
- IT 12597-69-2, Steel, miscellaneous  
RL: MSC (Miscellaneous)  
(aluminum-plated; chromium-free anticorrosive coatings for plated steel sheets)
- IT 61-82-5DP, 3-Amino-1,2,4-triazole, reaction products with epoxy resins 507271-32-1DP, Epikote 834X90-Duranate MF-K 60X-polyethylene glycol-TDI copolymer, reaction products with 3-amino-1,2,4-triazole  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(chromium-free anticorrosive coatings for plated steel sheets)
- IT 302-01-2D, Hydrazine, derivs., reaction products with epoxy resins 7664-38-2, Phosphoric acid, uses 7784-30-7, Aluminum phosphate 10043-83-1, Magnesium phosphate 10124-54-6, Manganese phosphate 10381-36-9, Nickel phosphate 12921-95-3 16961-83-4, Hexafluorosilicic acid 17439-11-1, Hexafluorotitanic acid  
RL: TEM (Technical or engineered material use); USES (Uses)  
(chromium-free anticorrosive coatings for plated steel sheets)
- IT 7631-86-9, Fumed silica, uses  
RL: TEM (Technical or engineered material use); USES (Uses)

(colloidal, corrosion inhibitor; chromium-free anticorrosive coatings for plated steel sheets)

IT 97-77-8, Tetraethylthiram disulfide 13939-25-8, Aluminum dihydrogen triphosphate 139638-76-5, Aluminum phosphomolybdate  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (corrosion inhibitor; chromium-free anticorrosive coatings for plated steel sheets)

IT 919-30-2, KBE 903 1760-24-3, KBM 603 2530-83-8  
 , KBM 403 2602-34-8, KBE 403 2897-60-1, KBE 402  
 3069-29-2, KBM 602 5089-72-5, KBE 603 13822-56-5  
 , KBM 903  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (coupling agents; chromium-free anticorrosive coatings for plated steel sheets)

IT 12597-69-2, Steel, miscellaneous  
 RL: MSC (Miscellaneous)  
 (aluminum-plated; chromium-free anticorrosive coatings for plated steel sheets)

RN 12597-69-2 HCAPLUS  
 CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 507271-32-1DF, Epikote 834X90-Duranate MF-K 60X-polyethylene glycol-TDI copolymer, reaction products with 3-amino-1,2,4-triazole  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (chromium-free anticorrosive coatings for plated steel sheets)

RN 507271-32-1 HCAPLUS  
 CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane, 1,3-diisocyanatomethylbenzene, Duranate MF-K 60X and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

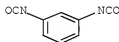
CM 1

CRN 199876-59-0  
 CMF Unspecified  
 CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

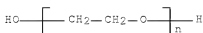
CRN 26471-62-5  
 CMF C9 H6 N2 O2  
 CCI IDS



D1-Me

CM 3

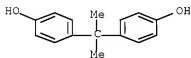
CRN 25322-68-3  
 CMF (C2 H4 O)n H2 O  
 CCI PMS



CM 4  
 CRN 106-89-8  
 CMF C3 H5 Cl O



CM 5  
 CRN 80-05-7  
 CMF C15 H16 O2



IT 7664-38-2, Phosphoric acid, uses 12021-95-3  
 16961-83-4, Hexafluorosilicic acid 17439-11-1,  
 Hexafluorotitanic acid  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (chromium-free anticorrosive coatings for plated steel  
 sheets)  
 RN 7664-38-2 HCAPLUS  
 CN Phosphoric acid (CA INDEX NAME)



RN 12021-95-3 HCAPLUS  
 CN Zirconate(2-), hexafluoro-, hydrogen (1:2), (OC-6-11)- (CA INDEX NAME)



● 2 H<sup>+</sup>

RN 16961-83-4 HCAPLUS

CN Silicate(2-), hexafluoro-, hydrogen (1:2) (CA INDEX NAME)



● 2 H<sup>+</sup>

RN 17439-11-1 HCAPLUS

CN Titanate(2-), hexafluoro-, hydrogen (1:2), (OC-6-11)- (CA INDEX NAME)



● 2 H<sup>+</sup>

IT 130638-76-5, Aluminum phosphomolybdate

RL: TEM (Technical or engineered material use); USES (Uses)  
(corrosion inhibitor; chromium-free anticorrosive coatings for plated steel sheets)

RN 130638-76-5 HCAPLUS

CN Aluminum molybdenum hydroxide oxide phosphate (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
HO	x	14280-30-9
O4P	x	14265-44-2
Mo	x	7439-98-7

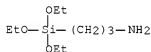
Al | x | 7429-90-5

IT 919-30-2, KBE 903 1760-24-3, KBM 603 2530-83-8  
 , KBM 403 2602-34-8, KBE 403 2897-60-1, KBE 402  
 3069-33-2, KBM 602 5083-72-5, KBE 603 13822-56-5  
 , KBM 903

RL: TEM (Technical or engineered material use); USES (Uses)  
 (coupling agents; chromium-free anticorrosive coatings for plated  
 steel sheets)

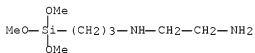
RN 919-30-2 HCAPLUS

CN 1-Propanamine, 3-(triethoxysilyl)- (CA INDEX NAME)



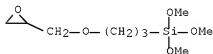
RN 1760-24-3 HCAPLUS

CN 1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]- (CA INDEX NAME)



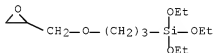
RN 2530-83-8 HCAPLUS

CN Oxirane, 2-[[3-(trimethoxysilyl)propoxy]methyl]- (CA INDEX NAME)



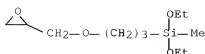
RN 2602-34-8 HCAPLUS

CN Oxirane, 2-[[3-(triethoxysilyl)propoxy]methyl]- (CA INDEX NAME)



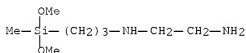
RN 2897-60-1 HCAPLUS

CN Oxirane, 2-[[3-(diethoxymethylsilyl)propoxy]methyl]- (CA INDEX NAME)



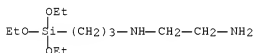
RN 3069-29-2 HCAPLUS

CN 1,2-Ethanediamine, N1-[3-(dimethoxymethylsilyl)propyl]- (CA INDEX NAME)



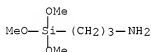
RN 5089-72-5 HCAPLUS

CN 1,2-Ethanediamine, N1-[3-(triethoxysilyl)propyl]- (CA INDEX NAME)



RN 13822-56-5 HCAPLUS

CN 1-Propanamine, 3-(trimethoxysilyl)- (CA INDEX NAME)



L116 ANSWER 5 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:644615 HCAPLUS Full-text

DN 135:196975

TI Epoxy resin emulsions and their weather-resistant water-based coatings

IN Noda, Sumio; Nishida, Reijiro

PA Kansai Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Parent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001240727	A	20010904	JP 2000-55306	20000301 <--
PRAI	JP 2000-55306		20000301	<--	

AB The aqueous emulsions, useful for construction sealants, etc., comprise acryl-modified epoxy resins and emulsifier resins that are prepared from polyethylene glycol (I; Mn 400-20,000), bisphenol-base epoxy resins, compds.

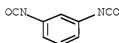


having an active H in a mol., and polyisocyanates. Thus, I (Mn 4000), bisphenol A epoxy resin (Epikote 828), TDI, and propylene glycol monomethyl ether were reacted, mixed with bisphenol A epoxy resin-acrylic acid-hydroxyethyl acrylate-Me methacrylate-styrene copolymer in H<sub>2</sub>O, further mixed with pigments and an amine crosslinker (Epulsion EB 1), and applied on a slate board to give a coating showing good water resistance.

- IC ICM C08L0063-02  
 ICS C08F0002-44; C08F0283-10; C08G0059-40; C08G0059-50; C08G0059-62; C08J0003-02; C08L0033-00; C08L0063-10; C09D0005-02; C09D0151-08; C09D0163-02; C09D0163-10; C09K0003-10
- CC 42-10 (Coatings, Inks, and Related Products)
- IT 1320-67-8DP, Propylene glycol monomethyl ether, blocking epoxy-polyoxyalkylene-polyurethanes 92488-61-4DP, Epikote 828-polyethylene glycol-TDI copolymer, blocked with propylene glycol monomethyl ether  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (emulsifier; weather-resistant water-based epoxy resin emulsion coatings)
- IT 92488-61-4DP, Epikote 828-polyethylene glycol-TDI copolymer, blocked with propylene glycol monomethyl ether  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (emulsifier; weather-resistant water-based epoxy resin emulsion coatings)
- RN 92488-61-4 HCAPLUS
- CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 1,3-diisocyanatomethylbenzene and  $\alpha$ -hydro- $\alpha$ -hydroxypoly(oxy-1,2-ethanediyl) (CA INDEX NAME)

CM 1

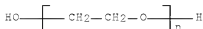
CRN 26471-62-5  
 CMF C9 H6 N2 O2  
 CCI IDS



DI-Me

CM 2

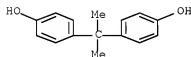
CRN 25322-68-3  
 CMF (C2 H4 O)n H2 O  
 CCI PMS



CM 3  
 CRN 106-89-8  
 CMF C3 H5 Cl O



CM 4  
 CRN 80-05-7  
 CMF C15 H16 O2



L116 ANSWER 6 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:644542 HCAPLUS [Full-text](#)

DN 135:212389

TI Manufacture of inorganic articles coated with water-based sealers having improved weather resistance and flexibility

IN Inada, Yuichi; Morimoto, Kazuhiro; Miyazaki, Takashi; Shinohara, Masaaki; Noda, Sumio; Nishida, Reiji

PA Kansai Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001239517	A	20010904	JP 2000-55307	20000301 <--
PRAI	JP 2000-55307		20000301	<--	

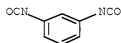
AB The materials for building walls, roof tiles, etc., are manufactured by forming inorg. materials, aging the formed articles, and coating the articles with water-based sealer compns. containing (I) aqueous emulsions consisting of (A) dispersion stabilizers of modified epoxy resins obtained by reacting polyethylene glycol having number-average mol. weight (Mn) 400-20,000 with bisphenol epoxy resins, compds. having one active H, and compds. having ≥2 active isocyanates and (B) acrylic-modified epoxy resins and (II) amine hardeners. Thus, a stabilizer resin [prepared from polyethylene glycol (Mn 4000), propylene glycol monomethyl ether, Epikote 828 (bisphenol A epoxy resin), and TDI] was mixed with a modified resin (prepared from Epikote 828, acrylic acid, styrene, Me methacrylate, and hydroxyethyl acrylate) and water to give an emulsion, which was stirred with a pigment paste and Epolsion EB 1 (amine hardener) to give a coating composition. A slate plate was coated with the composition to give a test piece showing water permeability ≤1 mL/24 h,

cross-cut adhesion 25/25, and high discoloration resistance in weathering test.

IC ICM B28B0011-04  
ICS C09D0005-00; C09D0005-02; C09D0163-00; C09D0163-10; C09D0171-00  
CC 42-9 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 58  
IT 92488-61-4, Epikote 828-polyethylene glycol-TDI copolymer  
RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
(dispersion stabilizers, blocked; manufacture of inorg. articles coated with  
water-based epoxy resin sealers having improved weather resistance and flexibility for building materials)  
IT 92488-61-4, Epikote 828-polyethylene glycol-TDI copolymer  
RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
(dispersion stabilizers, blocked; manufacture of inorg. articles coated with  
water-based epoxy resin sealers having improved weather resistance and flexibility for building materials)  
RN 92488-61-4 HCAPLUS  
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 1,3-diisocyanatomethylbenzene and 4-hydroxy- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) (CA INDEX NAME)

CM 1

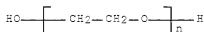
CRN 26471-62-5  
CMF C9 H6 N2 O2  
CCI IDS



DI-Me

CM 2

CRN 25322-68-3  
CMF (C2 H4 O)n H2 O  
CCI PMS



CM 3

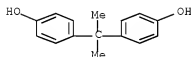
CRN 106-89-8  
CMF C3 H5 Cl O



CM 4

CRN 80-05-7

CMF C15 H16 O2



L116 ANSWER 7 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2000:560935 HCAPLUS [Full-text](#)

DN 133:165222

TI Water-thinned anticorrosive coating compositions with long pot life and excellent curability and water resistance

IN Sawada, Eisuke; Nakano, Tadashi; Iida, Shinji; Tomita, Kenichi

PA Kansai Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000226537	A	20000815	JP 1999-28820	19990205 <--
PRAI	JP 1999-28820		19990205	<--	

AB The comps. comprise (A) aqueous emulsions of epoxy resins with epoxy equivalent 100-1000 prepared by using dispersion stabilizers of modified epoxy resins prepared by reaction of polyethylene glycol (Mn 400-20,000), bisphenol-type epoxy resins, compds. having 1 active H in a mol., and compds. having ≥ 2 active isocyanate groups in a mol., (B) CO<sub>2</sub>-containing amine hardeners, and optionally flash rust inhibitors. Thus, polyethylene glycol (Mn 4000) 600, propylene glycol mono-Me ether (I) 13.5, and Epikote 828 (II; epoxy equivalent 190) 380 g were mixed, treated with 52.2 g TDI to NCO value ≤ 0.5, and diluted with 117 g I to give a dispersion stabilizer resin, 35 parts of which was blended with 65 parts II and emulsified with 100 parts H<sub>2</sub>O to give a 50% epoxy resin emulsion. A coating main agent comprising the emulsion 47, Ti white 13, talc 22.85, dispersant 1, defoamer 0.1, antiseptic 0.05, and H<sub>2</sub>O 16 parts was mixed 88:12 with Ancamide 365 (modified polyamide amine containing CO<sub>2</sub>), applied on a steel sheet, and dried at 20° and relative humidity 65% for 7 days to form a coating showing excellent corrosion and water resistance.

IC ICM C09D0005-02

ICS C09D0005-00; C09D0163-02; C08G0059-50

CC 42-9 (Coatings, Inks, and Related Products)

Section cross-reference(s): 55

IT 1320-67-8DP, Propylene glycol monomethyl ether, reaction products with modified epoxy resins 92488-61-4DP, Epikote 828-polyethylene

glycol-TDI copolymer, reaction products with propylene glycol mono-Me ether 107339-11-7DP, Epikote 828-isophorone diisocyanate-polyethylene glycol copolymer, reaction products with propylene glycol mono-Me ether  
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)

(dispersion stabilizer; water-thinned anticorrosive epoxy resin coating compns. with long pot life and good curability and water resistance)

IT 12597-69-2, Steel, miscellaneous  
 RL: MSC (Miscellaneous)

(water-thinned anticorrosive epoxy resin coating compns. with long pot life and good curability and water resistance)

IT 92486-61-4DP, Epikote 828-polyethylene glycol-TDI copolymer, reaction products with propylene glycol mono-Me ether  
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)

(dispersion stabilizer; water-thinned anticorrosive epoxy resin coating compns. with long pot life and good curability and water resistance)

RN 92486-61-4 HCAPLUS

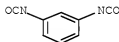
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 1,3-diisocyanatomethylbenzene and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) (CA INDEX NAME)

CM 1

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



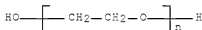
D1- Me

CM 2

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

CCI PMS



CM 3

CRN 106-89-8

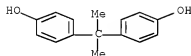
CMF C3 H5 Cl O



CM 4

CRN 80-05-7

CMF C15 H16 O2



IT 12597-69-2, Steel, miscellaneous

RL: MSC (Miscellaneous)

(water-thinned anticorrosive epoxy resin coating compns. with long pot life and good curability and water resistance)

RN 12597-69-2 HCAPLUS

CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L116 ANSWER 8 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1999:679796 HCAPLUS [Full-text](#)

DN 131:311755

TI Coating methods for aluminum fins having water-slipping coatings

IN Haruda, Yasuhiko; Morimoto, Koutaro

PA Kansai Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11290776	A	19991026	JP 1998-97685	19980409 <--
PRAI	JP 1998-97685		19980409	<--	

AB Aluminum is coated with a primer and a coating containing a reaction product (I) of an OH-containing fluoropolymer with an epoxy-terminated polysiloxane and  $\geq 1$  crosslinking agent, namely an optionally blocked polyisocyanate and a melamine resin. In the presence of a sulfonic acid compound, I is prepared at epoxy group-OH group equivalent ratio 1:0.05-1:0.8. Thus, a coating contained a reaction product of Lumiflon LF 600 with dimethylpolysiloxane terminated with tri-Me silyl group and  $\gamma$ -glycidoxypolydimethylsilyl group and Takenate D 160N.

IC ICM B05D0007-24

ICS B05D0005-00; C09D0005-00; C09D0127-12; F28F0019-04

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 56

IT 37321-70-3, A1050

RL: TEM (Technical or engineered material use); USES (Uses)

(A1050; water-slipping coatings containing hydroxy fluoropolymer-epoxy

polysiloxane reaction products and crosslinking agents for aluminum fins)

IT 81546-24-9P 237743-49-6P 247223-93-4P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(primers; water-slipping coatings containing hydroxy fluoropolymer-epoxy polysiloxane reaction products and crosslinking agents for aluminum fins)

IT 37321-70-3, Al050

RL: TEM (Technical or engineered material use); USES (Uses)

(Al050; water-slipping coatings containing hydroxy fluoropolymer-epoxy polysiloxane reaction products and crosslinking agents for aluminum fins)

RN 37321-70-3 HCAPLUS

CN Aluminum alloy, base, Al 99.50-100, Fe 0-0.40, Si 0-0.25, Cu 0-0.05, Mg 0-0.05, Mn 0-0.05, V 0-0.05, Zn 0-0.05, Ti 0-0.03 (AA 1050) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Al	99.50 - 100	7429-90-5
Fe	0 - 0.40	7439-89-6
Si	0 - 0.25	7440-21-3
Cu	0 - 0.05	7440-50-8
Mg	0 - 0.05	7439-95-4
Mn	0 - 0.05	7439-96-5
V	0 - 0.05	7440-62-2
Zn	0 - 0.05	7440-66-6
Ti	0 - 0.03	7440-32-6

IT 247223-93-4P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(primers; water-slipping coatings containing hydroxy fluoropolymer-epoxy polysiloxane reaction products and crosslinking agents for aluminum fins)

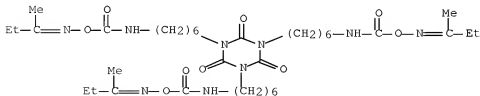
RN 247223-93-4 HCAPLUS

CN 1,3,5-Triazine-2,4,6-(1H,3H,5H)-trione, 1,3,5-tris[6-[[[(1-methylpropylidene)amino]oxy]carbonyl]amino]hexyl]-, polymer with 2-(chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol] (CA INDEX NAME)

CM 1

CRN 93919-05-2

CMF C36 H63 N9 O9

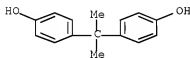


CM 2

CRN 106-89-8  
CMF C3 H5 C1 O



CM 3  
CRN 80-05-7  
CMF C15 H16 O2



L116 ANSWER 9 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1998:307154 HCAPLUS Full-text

DN 129:57089

TI Automobile preprimed steel sheet with excellent corrosion resistance, workability, and weldability

IN Yoshimi, Naoto; Urata, Kazuya; Yamashita, Masaaki

PA Nippon Kokan Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 18 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10128906	A	19980519	JP 1996-303569	19961029 <--
	JP 3271237	B2	20020402		
PRAI	JP 1996-303569		19961029	<--	

AB The steel sheet is a galvanized steel sheet, (1) the outside surface of which has a chromate coating containing 1-500 mg/m<sup>2</sup> Cr and an elec. conductive polymer coating with volume intrinsic resistivity  $\leq 1 \Omega\text{cm}$ , kinetic friction coefficient with no oil applied 0.03-0.30, pencil hardness 3B-5H, and thickness 2.0-30  $\mu\text{m}$  and (2) the inside surface of which has the chromate coating and an insulating polymer coating with volume intrinsic resistivity  $> 1 \Omega\text{cm}$  and thickness 0.1-3.0  $\mu\text{m}$ . The steel sheet, useful for automobile bodies and parts, shows excellent powdering resistance, weldability, press workability, inside surface properties (pitting resistance, etc.), and outside surface properties after painting (paint adhesion, corrosion resistance, etc.).

IC ICM B32B0015-08

ICS B05D0007-14; B62D0029-00; C23C0022-82; C23C0028-00

CC 55-6 (Ferrous Metals and Alloys)

ST automobile preprimed steel sheet polymer coating; galvanized steel preprimed chromate polymer coating



- IT Galvanized steel  
RL: TEM (Technical or engineered material use); USES (Uses)  
(automobile preprimed steel sheet with coating for excellent corrosion resistance and workability and weldability)
- IT Automobiles  
(bodies; automobile preprimed steel sheet with coating for excellent corrosion resistance and workability and weldability)
- IT Coating materials  
(chrome; automobile preprimed steel sheet with coating for excellent corrosion resistance and workability and weldability)
- IT Acrylic polymers, uses  
Epoxy resins, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(coating, containing corrosion inhibitor; automobile preprimed steel sheet with coating for excellent corrosion resistance and workability and weldability)
- IT Silica gel, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(corrosion inhibitor, polymer coating containing; automobile preprimed steel sheet with coating for excellent corrosion resistance and workability and weldability)
- IT Fluoropolymers, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(lubricant, polymer coating containing; automobile preprimed steel sheet with coating for excellent corrosion resistance and workability and weldability)
- IT Automobiles  
(parts; automobile preprimed steel sheet with coating for excellent corrosion resistance and workability and weldability)
- IT Corrosion inhibitors  
Electric conductors  
(polymer coating containing; automobile preprimed steel sheet with coating for excellent corrosion resistance and workability and weldability)
- IT Lubricants  
(solid, polymer coating containing; automobile preprimed steel sheet with coating for excellent corrosion resistance and workability and weldability)
- IT 53570-70-0, Acrylic A 405 134291-65-9 172867-70-8D, Duranate  
MF-B, block copolymer with amine-modified epoxy resin 183449-65-2, Epokey 834  
RL: TEM (Technical or engineered material use); USES (Uses)  
(coating, containing corrosion inhibitor; automobile preprimed steel sheet with coating for excellent corrosion resistance and workability and weldability)
- IT 7631-86-9, Aerosil R 811, uses 7789-06-2, Strontium chromate  
10294-40-3, Barium chromate  
RL: MOA (Modifier or additive use); USES (Uses)  
(corrosion inhibitor, polymer coating containing; automobile preprimed steel sheet with coating for excellent corrosion resistance and workability and weldability)
- IT 9002-84-0, Fluon L 155J 9002-88-4, Ceridust 3620  
RL: MOA (Modifier or additive use); USES (Uses)  
(lubricant, polymer coating containing; automobile preprimed steel sheet with coating for excellent corrosion resistance and workability and weldability)
- IT 7440-02-0, Nickel, uses 12597-68-1, Stainless steel,  
uses 12751-22-3, Iron phosphide 25583-20-4, Titanium nitride  
RL: MOA (Modifier or additive use); USES (Uses)  
(powders, polymer coating containing; automobile preprimed steel

sheet with coating for excellent corrosion resistance and workability and weldability)

IT 134291-65-9

RL: TEM (Technical or engineered material use); USES (Uses)  
(coating, containing corrosion inhibitor; automobile preprimed steel sheet with coating for excellent corrosion resistance and workability and weldability)

RN 134291-65-9 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane and Takenate B 870N (CA INDEX NAME)

CM 1

CRN 124671-40-5

CMF Unspecified

CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 106-89-8

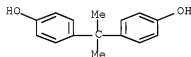
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



IT 12597-68-1, Stainless steel, uses

RL: MOA (Modifier or additive use); USES (Uses)  
(powders, polymer coating containing; automobile preprimed steel sheet with coating for excellent corrosion resistance and workability and weldability)

RN 12597-68-1 HCAPLUS

CN Stainless steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L116 ANSWER 10 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1998:115749 HCAPLUS [Full-text](#)

DN 128:205992

TI Anticorrosive weldable preprimed steel plates with excellent

powdering resistance and coatability

IN Yoshimi, Naoto; Urata, Kasuya; Yamashita, Masaaki; Haruda, Yasuhiko  
 PA Nippon Kokan Co., Ltd., Japan; Kansai Paint Co., Ltd.  
 SO Jpn. Kokai Tokkyo Koho, 30 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CMT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10043677	A	19980217	JP 1996-223036	19960806 <--
PRAI	JP 1996-223036		19960806	<--	
AB	Zinc-plated steel plates for automobile bodies are imparted a chromate layer then a 1.0-30 $\mu$ m-thick layer of compns. from (A) a base resin comprising 100 parts epoxy resins, modified epoxy resins, and/or polyhydroxy polyether resins and 5-80 parts isocyanate compds., (B) corrosion-preventing additives chosen from silica and water-insol. chromate salts at A/B = 99/1-50/50; (C) solid lubricants in an amount of 0.1-30 part to 100 parts A + B and B/20 $\leq$ C $\leq$ B + 20; and (D) elec. conductive additives chosen from metals and alloys, elec. conductive carbon, iron phosphide, carbides, nitrides, and semiconductive oxides at $5 \leq [D/(A + B + C + D)] \times 100 \leq 70$ in volume% based on the film-forming solids. A coating comprised Pheno Tohto YP-50 100, MIBK oxime-blocked IPDI 5, and dibutyltin dilaurate 0.2 part.				
IC	ICM B05D0007-14				
	ICS B05D0007-24; B32B0015-08; B32B0027-18; B32B0027-20; B32B0027-24;				
	C23C0028-00				
CC	42-10 (Coatings, Inks, and Related Products)				
ST	epoxy coating isocyanate hardener anticorrosive steel; automobile body anticorrosive steel plate; galvanized chromated anticorrosive steel plate				
IT	Fluoropolymers, uses				
	RL: MOA (Modifier or additive use); USES (Uses)				
	(Teflon MP 1100; anticorrosive weldable preprimed steel plates with excellent powdering resistance and coatability)				
IT	Corrosion inhibitors				
	Electric conductors				
	Lubricants				
	(anticorrosive weldable preprimed steel plates with excellent powdering resistance and coatability)				
IT	Silica gel, uses				
	RL: MOA (Modifier or additive use); USES (Uses)				
	(anticorrosive weldable preprimed steel plates with excellent powdering resistance and coatability)				
IT	Galvanized steel				
	RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)				
	(anticorrosive weldable preprimed steel plates with excellent powdering resistance and coatability)				
IT	Coating materials				
	(anticorrosive; anticorrosive weldable preprimed steel plates with excellent powdering resistance and coatability)				
IT	Automobiles				
	(bodies; anticorrosive weldable preprimed steel plates with excellent powdering resistance and coatability)				
IT	Polyurethanes, uses				
	Polyurethanes, uses				
	RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(epoxy; anticorrosive weldable preprimed steel plates with				

- excellent powdering resistance and coatability)
- IT Epoxy resins, uses  
Epoxy resins, uses  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM  
(Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polyurethane-; anticorrosive weldable preprimed steel plates  
with excellent powdering resistance and coatability)
- IT 9002-84-0, PTFE  
RL: MOA (Modifier or additive use); USES (Uses)  
(Teflon MP 1100; anticorrosive weldable preprimed steel  
plates with excellent powdering resistance and coatability)
- IT 111-42-2DP, Diethanolamine, cationic epoxy resins, uses 115-77-5DP,  
Pentaerythritol, cationic epoxy resins 141-43-5DP, Monoethanolamine,  
cationic epoxy resins, uses 4098-71-9DP, IPDI, cationic epoxy resins  
85305-25-5DP, Dipropanolamine, cationic epoxy resins 124671-40-5DP,  
Takenate B-870N, cationic epoxy resins 133988-63-3P 134291-65-9F  
134498-50-3DP, Duranate TPA 100, cationic epoxy resins 174514-92-2DP,  
Duranate MF-B80M, cationic epoxy resins 184015-78-9P 184015-79-0P  
184015-80-3P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM  
(Technical or engineered material use); PREP (Preparation); USES (Uses)  
(anticorrosive weldable preprimed steel plates with excellent  
powdering resistance and coatability)
- IT 1317-33-5, Molykote Z, uses 7429-90-5, Aluminum, uses 7440-02-0,  
Nickel, uses 7440-66-6, Zinc, uses 7631-86-9, Aerosil 200, uses  
7782-42-5, Graphite, uses 7789-06-2, Strontium chromate 9002-88-4,  
Luvax 115 10294-40-3, Barium chromate 12070-08-5, Titanium carbide  
12433-50-0, ZPC 12751-22-3, Iron phosphide 13765-19-0, Calcium  
chromate 25583-20-4, Titanium nitride 49663-84-5, ZTO  
77466-62-7, Shieldex 84135-65-9, Finesil T-32 109944-58-3, Aerosil  
R202 112153-70-5, Aerosil R805 139351-18-1, Aerosil R974  
139920-08-4, Tin titanium oxide  
RL: MOA (Modifier or additive use); USES (Uses)  
(anticorrosive weldable preprimed steel plates with excellent  
powdering resistance and coatability)
- IT 134291-65-9P 184015-80-3P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM  
(Technical or engineered material use); PREP (Preparation); USES (Uses)  
(anticorrosive weldable preprimed steel plates with excellent  
powdering resistance and coatability)
- RN 134291-65-9 HCAPLUS
- CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-  
(chloromethyl)oxirane and Takenate B 870N (CA INDEX NAME)

CM 1

CRN 124671-40-5

CMF Unspecified

CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 106-89-8

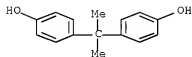
CMF C3 H5 C1 O



CM 3

CRN 80-05-7

CMF C15 H16 O2



RN 184015-80-3 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane and Duranate MF-B 80M (CA INDEX NAME)

CM 1

CRN 174514-92-2

CMF Unspecified

CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 106-89-8

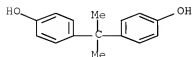
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



IT 12433-50-0, ZPC 49663-84-5, ZTO

RL: MOA (Modifier or additive use); USES (Uses)  
(anticorrosive weldable preprimed steel plates with excellent  
powdering resistance and coatability)

RN 12433-50-0 HCAPLUS

CN Potassium zinc chromate oxide (K<sub>2</sub>Zn<sub>4</sub>(CrO<sub>4</sub>)<sub>4</sub>O) (CA INDEX NAME)

Component	Ratio	Component Registry Number
=====	=====	=====
O	1	17778-80-2
CrO <sub>4</sub>	4	13907-45-4
Zn	4	7440-66-6
K	2	7440-09-7

RN 49663-84-5 HCAPLUS

CN Zinc chromate hydroxide (Zn<sub>5</sub>(CrO<sub>4</sub>)(OH)<sub>8</sub>) (CA INDEX NAME)

Component	Ratio	Component Registry Number
=====	=====	=====
HO	8	14280-30-9
CrO <sub>4</sub>	1	13907-45-4
Zn	5	7440-66-6

L116 ANSWER 11 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1997:618910 HCAPLUS Full-text

DN 127:279347

TI Aqueous epoxy resin compositions with long pot life for adhesives and coatings

IN Sawada, Hidenori; Tomita, Kenichi; Shimada, Shinichi; Hamamura, Toshihiro; Nakaya, Toshikazu; Nishida, Reijiro

PA Kansai Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

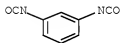
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09241482	A	19970916	JP 1996-56512	19960313 <--
	JP 3720899	B2	20051130		
PRAI	JP 1996-56512		19960313	<--	

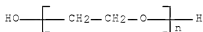
AB Title compns. comprise (I) aqueous epoxy hardeners containing (A) amine-modified epoxy resins prepared from polyethylene glycol [I; number-average mol. weight (Mn) 400-20,000], bisphenol-type epoxy resins, compds. having 1 active H (/mol.), compds. having ≥2 active NCO (/mol.), and active-H-containing amines, (B) active-H-containing hydrophobic polyamines, and (II) epoxy resin aqueous dispersions. Thus, 0.15 mol I (Mn 4,000) was treated with 0.15 mol propylene glycol monomethyl ether (II) 1 mol Epikote 828 at 100° and then with 0.3 mol TDI at 120° to NCO index ≤0.5, diluted with II to give an epoxy resin (E1), which was modified with 1.738 mol Pr<sub>2</sub>NH to give A, while 35 parts E1 was blended with 65 parts Epikote 828 and 100 parts H<sub>2</sub>O to give a dispersion (II-1). Then, 34 parts 30:70:100 (%) A/Epikote H 5S (polyamine)/H<sub>2</sub>O was blended with 66 parts II-1 to give title composition, which was applied on a soft steel plate and dried to give a coating film showing no corrosion nor blisters in salt spray test (JIS Z 2371), gel fraction ≥71 % in 24-h immersion in 20° THF, and excellent resistance in DuPont falling weight impact test.

IC ICM C08L0063-00  
 ICS C08G0059-14; C09D0163-00  
 CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 42  
 IT 92488-61-4P 196791-35-2P 196791-36-3P 196791-37-4P  
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP  
 (Properties); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)  
 (hardener; aqueous epoxy resin compns. containing amine-modified epoxy  
 hardeners with long pot life)  
 IT 92488-61-4P  
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP  
 (Properties); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)  
 (hardener; aqueous epoxy resin compns. containing amine-modified epoxy  
 hardeners with long pot life)  
 RN 92488-61-4 HCAPLUS  
 CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-  
 (chloromethyl)oxirane, 1,3-diisocyanatomethylbenzene and  
 $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) (CA INDEX NAME)  
 CM 1  
 CRN 26471-62-5  
 CMF C9 H6 N2 O2  
 CCI IDS



D1- Me

CM 2  
 CRN 25322-68-3  
 CMF (C2 H4 O)n H2 O  
 CCI PMS



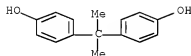
CM 3  
 CRN 106-89-8  
 CMF C3 H5 Cl O



CM 4

CRN 80-05-7

CMF C15 H16 O2



L116 ANSWER 12 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1997:107263 HCAPLUS Full-text

DN 126:119149

TI Anticorrosive and press-moldable organic composite-coated steel panels

IN Urata, Kazuya; Yoshimi, Naoto; Kubota, Takahiro; Yamashita, Masaaki; Sato, Kentaro; Haruta, Yasuhiko

PA Nippon Kokan Kk, Japan; Kansai Paint Co Ltd

SO Jpn. Kokai Tokkyo Koho, 55 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08318218	A	19961203	JP 1996-60130	19960222 <--
	JP 3228675	B2	20011112		
PRAI	JP 1995-86313	A	19950317	<--	

AB Title panels are prepared by forming chromate films on Zn (alloy)-plated steel panels (A) to a Cr thickness of 5-200 mg/m<sup>2</sup> and covering with organic compns. containing 3-50% anticorrosive agents and 30-80% polymers consisting of 100 parts OH- or COOH-containing base polymers (excluding epoxy resins end modified by basic N and ≥2 primary OH groups) and 5-80 parts polyisocyanates to a thickness of between 3.0 μm and 0.1 + (Ra + 2) (Ra = average roughness of the A panels). A a Ni/Zn alloy-plated steel panel with a Ra 1.0 μm was chromated to a 50-μm Cr, covered with a composition containing a Sn catalyst, 100 parts Epikote 1007, 25 parts Duranate MF-B 80M (blocked hexafunctional derivative of HMDI), polyethylene wax, BaCrO<sub>4</sub>, and SrCrO<sub>4</sub> to a 0.8-μm thickness, and baked at 140° to form a plate showing good coating adhesion, anticorrosion, lubricity, processability, and powdering resistance.

ICM B05D0007-14

ICS B05D0003-10; B05D0007-24; B32B0015-08; C23C0022-24; C23C0028-00

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 55

ST processability epoxy coating chromated zinc steel; anticorrosion epoxy coating chromated zinc steel; acrylic acid resin coating chromated steel; zinc alloy plated steel coating processability



- IT Lubricants  
(anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)
- IT Epoxy resins, uses  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)
- IT Galvanized steel  
RL: TEM (Technical or engineered material use); USES (Uses)  
(anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)
- IT Chromates  
RL: MOA (Modifier or additive use); USES (Uses)  
(anticorrosive filler; anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)
- IT Coating materials  
(anticorrosive; hydroxy- or carboxy-containing resin coatings on chromated and zinc alloy-plated steel)
- IT Fluoropolymers, uses  
RL: MOA (Modifier or additive use); POF (Polymer in formulation); USES (Uses)  
(blend with polyethylene, lubricant; anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)
- IT Acrylic polymers, uses  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(carboxy-containing; anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)
- IT Corrosion inhibitors  
(insol. chromates; anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)
- IT Fluoropolymers, uses  
RL: MOA (Modifier or additive use); POF (Polymer in formulation); USES (Uses)  
(lubricant; anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)
- IT Polyoxyalkylenes, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(monoethers, lubricant; anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)
- IT 184015-77-8P 184015-78-9P 184015-80-3P 184915-48-8P  
185914-53-8P 185914-54-9P 185914-55-0P 185914-56-1P 185914-57-2P  
185914-58-3P 185914-59-4P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)
- IT 12597-69-2, Steel, miscellaneous  
RL: MSC (Miscellaneous)  
(anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)
- IT 52360-06-2 68493-54-9 118889-49-9  
119412-76-9 152259-57-3  
RL: TEM (Technical or engineered material use); USES (Uses)  
(anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)
- IT 7789-06-2, Strontium chromate 10294-40-3, Barium chromate 13530-65-9, Zinc chromate 13765-19-0, Calcium chromate 41189-36-0, Potassium zinc chromate

- RL: MOA (Modifier or additive use); USES (Uses)  
(anticorrosive filler; anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)
- IT 186100-76-4, Fluoroslip 421 186100-76-5, Fluoroslip 511  
RL: MOA (Modifier or additive use); POF (Polymer in formulation); USES (Uses)  
(blend with poly(tetrafluoroethylene), lubricant; anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)
- IT 9002-84-0, PTFE  
RL: MOA (Modifier or additive use); POF (Polymer in formulation); USES (Uses)  
(blend with polyethylene, lubricant; anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)
- IT 1333-82-0, Chromium oxide (CrO3)  
RL: TEM (Technical or engineered material use); USES (Uses)  
(coatings; anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)
- IT 1317-33-5, Molybdenum sulfide, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(lubricant, LM 13; anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)
- IT 7782-42-5, Graphite, uses 10043-11-5, UHPS 1, uses 25322-69-4D, monoethers 144913-72-4, Ceflon CMF  
RL: MOA (Modifier or additive use); USES (Uses)  
(lubricant; anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)
- IT 9002-84-0, Fluon L 155J 9002-84-0, SST 1MG 9002-84-0, TL 10 (polymer) 9002-88-4, Polyethylene 181285-40-5, Fluon L 171J 186048-62-4, Fluon L 140J 186048-65-7, Teflon MP 1125  
RL: MOA (Modifier or additive use); POF (Polymer in formulation); USES (Uses)  
(lubricant; anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)
- IT 184015-80-3F  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)
- RN 184015-80-3 HCAPLUS
- CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane and Duranate MF-B 80M (CA INDEX NAME)

CM 1

CRN 174514-92-2  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

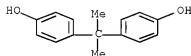
CRN 106-89-8  
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



IT 12597-69-2, Steel, miscellaneous

RL: MSC (Miscellaneous)

(anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)

RN 12597-69-2 HCAPLUS

CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 52360-06-2 68493-54-9 118889-49-9

119412-76-9 152259-57-9

RL: TEM (Technical or engineered material use); USES (Uses)

(anticorrosive filler-containing resin coatings on chromated and zinc alloy-plated steel)

RN 52360-06-2 HCAPLUS

CN Zinc alloy, base, Zn 88, Ni 12 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Zn	88	7440-66-6
Ni	12	7440-02-0

RN 68493-54-9 HCAPLUS

CN Aluminum alloy, base, Al 55, Zn 43, Si 1.6 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Al	55	7429-90-5
Zn	43	7440-66-6
Si	1.6	7440-21-3

RN 118889-49-9 HCAPLUS

CN Zinc alloy, base, Zn 94, Al 5, Mo 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Zn	94	7440-66-6

Al	5	7429-90-5
Mo	0.5	7439-98-7

RN 119412-76-9 HCAPLUS  
 CN Zinc alloy, base, Zn 88,Cr 12 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	88	7440-66-6
Cr	12	7440-47-3

RN 152259-57-9 HCAPLUS  
 CN Zinc alloy, base, Zn 86,Cr 12,Ni 2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	86	7440-66-6
Cr	12	7440-47-3
Ni	2	7440-02-0

L116 ANSWER 13 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1997:89960 HCAPLUS Full-text

DN 126:105513

TI Low temperature-curable one liquid-type epoxy resin coatings

IN Asahina, Yoshuki; Sasahara, Hirotada

PA Asahi Chemical Ind, Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08302280	A	19961119	JP 1995-114362	19950512 <--
	JP 3442191	B2	20030902		
PRAI	JP 1995-114362		19950512	<--	

AB The coating compns. comprise (A) epoxy resins and/or acrylic resins having both epoxy groups and OH, (B) blocked polyisocyanates obtained from aliphatic and/or alicyclic diisocyanates, and (C) tertiary and/or quaternary amines. Thus, 100 parts AER 6007 (bisphenol A-type epoxy resin) was dissolved to 150 parts Bu cellosolve, then 100 parts the solution was blended with 24 parts Duranate MF-B 80M (HMDI-containing urethane-modified isocyanurate-type blocked polyisocyanate) and 0.30 parts Dabco, applied to a tin plate, and baked in an oven for 20 min at 120° to give test pieces with gel fraction ≥90% and storage stability for 1 wk at 50°.

IC ICM C09D0175-04

ICS C09D0133-14; C09D0163-00; C08G0018-58; C08G0018-80

CC 42-9 (Coatings, Inks, and Related Products)

IT 184015-80-3P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(low temperature-curable one liquid-type epoxy resin coatings)

IT 184015-80-3P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(low temperature-curable one liquid-type epoxy resin coatings)

RN 184015-80-3 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane and Duranate MF-B 80M (CA INDEX NAME)

CM 1

CRN 174514-92-2

CMF Unspecified

CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 106-89-8

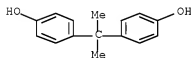
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



L116 ANSWER 14 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1997:60943 HCAPLUS Full-text

DN 126:76218

TI Pre-primed steel panels with good adhesion, anticorrosion, powdering resistance, and coatability

IN Yoshimi, Naoto; Urata, Kazuya; Kubota, Takahiro; Yamashita, Masaaki

PA Nippon Kokan Kk, Japan

SO Jpn. Kokai Tokkyo Koho, 36 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08276154	A	19961022	JP 1995-103149	19950404 <--
	JP 3304235	B2	20020722		
FRAI	JP 1995-103149		19950404	<--	

AB Title panels are prepared by coating chromated (1-500 mg/m<sup>2</sup> Cr) Zn (alloy)-plated steel panels with (modified)epoxy resins and 0.1-30 phr solid

lubricants to a thickness of 1.0-30  $\mu\text{m}$ . A chromated galvanized steel panel was coated with a composition containing anticorrosive additives, Pheno Tohto YP 50-6:1 IPDI/sorbitol adduct copolymer, silica, and Luvax 115 lubricant and baked to form a title panel.

- IC ICM B05D0007-14  
ICS B32B0015-08; C23C0028-00
- CC 42-9 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 55
- ST solid lubricant epoxy primer galvanized steel; powdering resistance chromated steel epoxy primer; anticorrosive chromated steel epoxy primer; coatability chromated steel epoxy primer
- IT Primers (paints)  
(anticorrosive, powdering-resistant; solid lubricant-containing epoxy resin primers on chromated and zinc alloy-plated steel)
- IT Polyurethanes, uses  
Polyurethanes, uses  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(epoxy; solid lubricant-containing epoxy resin primers on chromated and zinc alloy-plated steel for corrosion/powdering resistance and coatability)
- IT Fluoropolymers, miscellaneous  
RL: MSC (Miscellaneous)  
(lubricant; solid lubricant-containing epoxy resin primers on chromated and zinc alloy-plated steel for corrosion/powdering resistance and coatability)
- IT Epoxy resins, uses  
Epoxy resins, uses  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polyurethane-; solid lubricant-containing epoxy resin primers on chromated and zinc alloy-plated steel for corrosion/powdering resistance and coatability)
- IT Lubricants  
(solid lubricant-containing epoxy resin primers on chromated and zinc alloy-plated steel for corrosion and powdering resistance and coatability)
- IT Epoxy resins, uses  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(solid lubricant-containing epoxy resin primers on chromated and zinc alloy-plated steel for corrosion/powdering resistance and coatability)
- IT Galvanized steel  
RL: MSC (Miscellaneous)  
(solid lubricant-containing epoxy resin primers on chromated and zinc alloy-plated steel for corrosion/powdering resistance and coatability)
- IT 11149-84-1  
RL: MSC (Miscellaneous)  
(0.5% Mo-containing, platings; solid lubricant-containing epoxy resin primers on chromated and zinc alloy-plated steel for corrosion/powdering resistance and coatability)
- IT 1317-33-5, Molykote Z, miscellaneous  
RL: MSC (Miscellaneous)  
(lubricant; solid lubricant-containing epoxy resin primers on chromated and zinc alloy-plated steel for corrosion and powdering resistance and coatability)

IT 9002-84-0, Teflon MP 1100  
 RL: MSC (Miscellaneous)  
 (lubricant; solid lubricant-containing epoxy resin primers on chromated and zinc alloy-plated steel for corrosion/powdering resistance and coatability)

IT 37346-11-5 52975-39-0 54134-51-9  
 74750-92-6  
 RL: MSC (Miscellaneous)  
 (platings; solid lubricant-containing epoxy resin primers on chromated and zinc alloy-plated steel for corrosion/powdering resistance and coatability)

IT 9042-77-7DP, polymers with reaction products of TDI/octyl alc. adduct and bisphenol A epoxy resin and isopropanolamine 9048-90-2DP, polymers with reaction products of TDI/octyl alc. adduct and bisphenol A epoxy resin and isopropanolamine 101211-96-5DP, polymers with bisphenol A epoxy resin and isopropanolamine and polyoxyalkylene-diisocyanate resins  
 134291-65-9P 153654-25-2DP, reaction products with TDI/octyl alc. adduct and polymers with polyoxyalkylene-diisocyanate resins  
 184015-78-9P 184015-79-0P 184015-80-3P 184915-43-3P  
 184915-46-6P 184915-48-8P 184915-50-2P 184915-53-5P 184915-54-6P  
 185437-65-4P 185437-66-5P 185437-67-6P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (solid lubricant-containing epoxy resin primers on chromated and zinc alloy-plated steel for corrosion/powdering resistance and coatability)

IT 9002-88-4, Polyethylene  
 RL: MSC (Miscellaneous)  
 (wax, lubricant; solid lubricant-containing epoxy resin primers on chromated and zinc alloy-plated steel for corrosion/powdering resistance and coatability)

IT 11149-84-1  
 RL: MSC (Miscellaneous)  
 (0.5% Mo-containing, platings; solid lubricant-containing epoxy resin primers on chromated and zinc alloy-plated steel for corrosion/powdering resistance and coatability)

RN 11149-84-1 HCAPLUS  
 CN Aluminum alloy, nonbase, Al,Zn (CA INDEX NAME)

Component	Component Registry Number
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=====+=====

Al	7429-90-5
Zn	7440-66-6

IT 37346-11-5 52975-39-0 54134-51-9  
 74750-92-6

RL: MSC (Miscellaneous)  
 (platings; solid lubricant-containing epoxy resin primers on chromated and zinc alloy-plated steel for corrosion/powdering resistance and coatability)

RN 37346-11-5 HCAPLUS

CN Nickel alloy, nonbase, Ni,Zn (CA INDEX NAME)

Component	Component Registry Number
-----------	---------------------------

=====+=====

Ni	7440-02-0
Zn	7440-66-6

RN 52975-39-0 HCAPLUS  
 CN Manganese alloy, nonbase, Mn,Zn (CA INDEX NAME)

Component	Component Registry Number
Mn	7439-96-5
Zn	7440-66-6

RN 54134-51-9 HCAPLUS  
 CN Chromium alloy, nonbase, Cr,Zn (CA INDEX NAME)

Component	Component Registry Number
Cr	7440-47-3
Zn	7440-66-6

RN 74750-92-8 HCAPLUS  
 CN Chromium alloy, nonbase, Cr,Ni,Zn (9CI) (CA INDEX NAME)

Component	Component Registry Number
Cr	7440-47-3
Ni	7440-02-0
Zn	7440-66-6

IT 134291-65-9P 144015-80-3P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM  
 (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (solid lubricant-containing epoxy resin primers on chromated and zinc  
 alloy-plated steel for corrosion/powdering resistance and  
 coatability)

RN 134291-65-9 HCAPLUS  
 CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-  
 (chloromethyl)oxirane and Takenate B 870N (CA INDEX NAME)

CM 1

CRN 124671-40-5  
 CMF Unspecified  
 CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 106-89-8  
 CMF C3 H5 Cl O

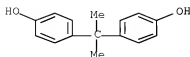




CM 3

CRN 80-05-7

CMF C15 H16 O2



RN 184015-80-3 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane and Duranate MF-B 80M (CA INDEX NAME)

CM 1

CRN 174514-92-2

CMF Unspecified

CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 106-89-8

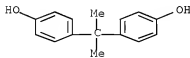
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



L116 ANSWER 15 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1996:751529 HCAPLUS [Full-text](#)

DN 126:20196

TI Corrosion-resistant steel coated with organic composites and useful for automobile bodies

IN Yoshimi, Naoto; Kubota, Takahiro; Yamashita, Masaaki

PA Nippon Kokan Kk, Japan

SO Jpn. Kokai Tokkyo Koho, 19 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08252527	A	19961001	JP 1995-84740	19950316 <--
	JP 3259584	B2	20020225		
PRAI	JP 1995-84740		19950316	<--	
AB	Zinc-plated steel is chromated 5-200 mg/m <sup>2</sup> , coated with solvents containing (A) bisphenol epoxy resins having number-average-mol. weight 300-100,000 100, (B) polyisocyanate crosslinking agents having ≥3 NCO groups/mol. 5-80, (C) a polyethylene wax 0.1-10 parts, and (D) rustproofing additives at (A + B)/D 90/10-40/60, and dried to coating thickness 0.2-3 μm. Thus, steel plated with 12:88 Ni-Zn was chromated and coated with cyclohexanone containing Epikote 1007, a reaction product of IPDI with Me Et ketoxime and sorbitol, Aerosil R811, Ba chromate, and a polyethylene wax.				
IC	ICM B05D0007-14 ICS B05D0003-10; B05D0005-00; B05D0007-24; B32B0015-08; C23C0022-24; C23C0028-00				
CC	42-9 (Coatings, Inks, and Related Products) Section cross-reference(s): 55, 56				
ST	corrosion resistant zinc plated steel; chromated plated epoxy coated steel; polyisocyanate crosslinking agent epoxy coating; automobile body steel plate				
IT	Silica gel, uses RL: MOA (Modifier or additive use); USES (Uses) (Syloid 244, rustproofing agents; zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)				
IT	Alloys, uses RL: TEM (Technical or engineered material use); USES (Uses) (plating; zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)				
IT	Lubricants (polyethylene; zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)				
IT	Crosslinking agents (polyisocyanates; zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)				
IT	Phenolic resins, uses RL: MOA (Modifier or additive use); USES (Uses) (resol; zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)				
IT	Chromates RL: MOA (Modifier or additive use); USES (Uses) (rustproofing agents; zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)				
IT	Rust (iron oxide) RL: MSC (Miscellaneous) (rustproofing agents; zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)				
IT	Coating materials (zinc-plated chromated steel coated with epoxy resins containing				

- rustproofing agents and polyethylene wax for automobile bodies)
- IT Galvanized steel  
 RL: MSC (Miscellaneous)  
 (zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)
- IT Epoxy resins, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)
- IT 50-70-4DP, D-Glucitol, reaction products with IPDI and Me Et ketoxime, uses 96-29-7DP, Methyl ethyl ketoxime, reaction products with IPDI and sorbitol 115-77-5DP, reaction products with IPDI and Me Et ketoxime 4098-71-9DP, IpdI, reaction products with Me Et ketoxime and sorbitol  
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)  
 (crosslinking agents; zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)
- IT 9002-88-4, Polyethylene  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (lubricants; zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)
- IT 52360-06-2 88120-60-9 97365-06-5  
 118889-49-9 152259-57-9  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (plating; zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)
- IT 7631-86-9, Aerosil R 811, uses 7789-06-2, Strontium chromate 10294-40-3, Barium chromate 13530-65-9, Zinc chromate 13765-19-0, Calcium chromate 37224-57-0, Zinc potassium chromate 77466-62-7, Shieldex 84135-65-9, Finesil T 32 109944-58-3, Aerosil R 202 112153-70-5, Aerosil R 805 139351-18-1, Aerosil R 974  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (rustproofing agents; zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)
- IT 134498-50-3DP, Duranate TPA 100, reaction products with Me Et ketoxime  
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)  
 (zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)
- IT 184015-77-8P, Bisphenol A-epichlorohydrin-isophorone diisocyanate-sorbitol copolymer 184015-78-9P, Epikote 1007-isophorone diisocyanate-pentaerythritol copolymer 184015-79-0P 184015-80-3P 184309-24-8P 184309-25-9P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)
- IT 1333-82-0, Chromic anhydride 119412-76-9  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)
- IT 52360-06-2 88120-60-9 97365-06-5  
 118889-49-9 152259-57-9  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (plating; zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)

bodies)

RN 52360-06-2 HCAPLUS

CN Zinc alloy, base, Zn 88, Ni 12 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	88	7440-66-6
Ni	12	7440-02-0

RN 88120-60-9 HCAPLUS

CN Zinc alloy, base, Zn 85, Fe 15 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	85	7440-66-6
Fe	15	7439-89-6

RN 97365-06-5 HCAPLUS

CN Manganese alloy, base, Mn 60, Zn 40 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Mn	60	7439-96-5
Zn	40	7440-66-6

RN 118889-49-9 HCAPLUS

CN Zinc alloy, base, Zn 94, Al 5, Mo 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	94	7440-66-6
Al	5	7429-90-5
Mo	0.5	7439-98-7

RN 152259-57-9 HCAPLUS

CN Zinc alloy, base, Zn 86, Cr 12, Ni 2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	86	7440-66-6
Cr	12	7440-47-3
Ni	2	7440-02-0

IT 37224-57-0, Zinc potassium chromate

RL: MOA (Modifier or additive use); USES (Uses)  
 (rustproofing agents; zinc-plated chromated steel coated with  
 epoxy resins containing rustproofing agents and polyethylene wax for  
 automobile bodies)

RN 37224-57-0 HCAPLUS

CN Chromium potassium zinc oxide (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2

Zn		x		7440-66-6
Cr		x		7440-47-3
K		x		7440-09-7

IT 184015-80-3P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)

RN 184015-80-3 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane and Duranate MF-B 80M (CA INDEX NAME)

CM 1

CRN 174514-92-2

CMF Unspecified

CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 106-89-8

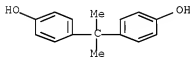
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



IT 119412-76-9

RL: TEM (Technical or engineered material use); USES (Uses)

(zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)

RN 119412-76-9 HCAPLUS

CN Zinc alloy, base, Zn 88, Cr 12 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	88	7440-66-6
Cr	12	7440-47-3

L116 ANSWER 16 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1991:609392 HCAPLUS Full-text

DN 115:209392

TI Polycarbonate-polyamide blends

IN Takeshita, Nobushi; Kitamura, Kazuo

PA Teijin Chemicals, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03028265	A	19910206	JP 1989-162702	19890627 <--
	JP 2872272	B2	19990317		
PRAI	JP 1989-162702		19890627	<--	

AB Blends with good heat and chemical resistance contain (A) 100 parts mixture containing 25-90% polycarbonate and 10-75% polyamide, (B) 0.1-15 parts epoxy resins, and (C) 0.1-25 parts  $\geq 1$  polymer selected from halogenated polyolefins, halo-containing rubbers, and block copolymers and olefin polymers modified by carboxylic acids or their derivs. Thus, L 1250 (polycarbonate) 53, nylon-6 (intrinsic viscosity 1.5 in m-cresol) 47, Epo Tohto YD 7020 (I, bisphenol A epoxy resin, epoxy equiv 3800-5000 g/eqv) 3, and Elasen 301A (30%-chlorinated polyethylene) 3 parts were melt kneaded, pelletized, and injection molded to give a test piece showing notched Izod impact strength 7 kg-cm/cm. Test pieces obtained at the 15th continuous shot and also at 19th shot (10 min pause between 15th and 16th) showed good appearance. On the contrary, the pieces prepared from as similar composition not containing I showed 2 kg-cm/cm and bad appearance in the injection molding.

IC ICM C08L0069-00

ICS C08L0077-00

IC I C08L0069-00, C08L0077-00, C08L0063-00, C08L0101-00

CC 37-6 (Plastics Manufacture and Processing)

IT 108-31-6D, 2,5-Furandione, reaction products with hydrogenated butadiene-styrene block copolymer or EPR 9002-88-4 26061-90-5, Bondfast E 106107-54-4D, hydrogenated, maleated 107080-92-2, Kaneace B 56 134291-65-9

RL: USES (Uses)

(polyamide-polycarbonate blends containing, with good heat and chemical resistance)

IT 25038-54-4, Nylon 6, properties 32131-17-2, Zytel 101L, properties

RL: PRP (Properties)

(polycarbonate blends containing, with good heat and chemical resistances)

IT 134291-65-9

RL: USES (Uses)

(polyamide-polycarbonate blends containing, with good heat and chemical resistance)

RN 134291-65-9 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane and Takenate B 870N (CA INDEX NAME)

CM 1

CRN 124671-40-5

CMF Unspecified

CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 106-89-8

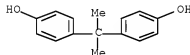
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



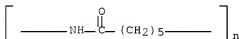
IT 25038-54-4, Nylon 6, properties

RL: PRP (Properties)

(polycarbonate blends containing, with good heat and chemical resistances)

RN 25038-54-4 HCAPLUS

CN Poly[imino(1-oxo-1,6-hexanediyl)] (CA INDEX NAME)



L116 ANSWER 17 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1991:410987 HCAPLUS Full-text

DN 115:10987

TI Epoxy resin-based lubricating coatings for ferrous metals

IN Yoshii, Kazuo; Miyosawa, Yoshiaki; Ozawa, Kazuhiko

PA Kansai Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03002257	A	19910108	JP 1989-137655	19890531 <--
PRAI	JP 1989-137655		19890531	<--	
AB	The title coatings, giving good processability and corrosion resistance, contain epoxy resins (glass temperature >80°) 100, silica sols 10-60 (as				

solids), polyolefin waxes (m.p. >90°) 0.3-20 parts, and optionally ≤100 phr (based on polyolefin wax) powdered fluoropolymers. Thus, a solution of Phenotohto YP-50 (phenol-epichlorohydrin copolymer) 100, SiO<sub>2</sub> sol 20, and polyethylene wax 10 parts was coated (1.4 g/m<sup>2</sup> solids) on galvanized steel and dried at 120° to give a plate with good processability and rusting time (JIS Z-2371) 624 and 552 h for unprocessed and bent part, resp.; vs. poor, 480, and 360, resp., with a polyvinyl butyral in place of Phenotohto YP-50.

IC ICM C08L0063-00  
ICS C08K0003-36; C09D0163-00  
ICI C08L0063-00, C08L0023-00  
CC 42-9 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 55  
ST epoxy resin coating steel; corrosion resistance coating  
steel; lubricant coating steel; galvanized steel  
coating; silica sol coating steel; polyethylene wax coating  
steel  
IT Galvanized iron and steel  
RL: USES (Uses)  
(anticorrosive lubricating coatings for, epoxy resin compns. as)  
IT 25068-38-6, Phenotohto YP-50 25068-38-6, Epotohto YD-7020  
134291-65-9 134291-65-9  
RL: TEM (Technical or engineered material use); USES (Uses)  
(coatings, anticorrosive and lubricating, for ferrous metals)  
IT 134291-65-9  
RL: TEM (Technical or engineered material use); USES (Uses)  
(coatings, anticorrosive and lubricating, for ferrous metals)  
RN 134291-65-9 HCAPLUS  
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-  
(chloromethyl)oxirane and Takenate B 870N (CA INDEX NAME)

CM 1

CRN 124671-40-5  
CMF Unspecified  
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

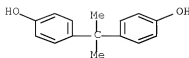
CRN 106-89-8  
CMF C3 H5 Cl O



CM 3

CRN 80-05-7  
CMF C15 H16 O2





L116 ANSWER 18 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1990:218912 HCAPLUS [Full-text](#)

DN 112:218912

TI Manufacture of highly corrosion-resistant surface-treated steel plates

IN Watanabe, Tsutomu; Yamashita, Masaaki; Kubota, Takahiro

PA NKK Corp., Japan

SO Eur. Pat. Appl., 22 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 348890	A1	19900103	EP 1989-111671	19890627 <--
	EP 348890	B1	19931208		
	R: DE, FR, GB				
	JP 02015177	A	19900118	JP 1988-163718	19880630 <--
	JP 07035587	B	19950419		
	US 4971636	A	19901120	US 1989-369465	19890621 <--
	AU 8936788	A	19900104	AU 1989-36788	19890623 <--
	AU 611618	B2	19910613		
	CA 1333030	C	19941115	CA 1989-603769	19890623 <--
PRAI	JP 1988-163718	A	19880630	<--	

AB The title plates, especially useful for inner sides of automobile bodies, are prepared from Zn or Zn alloy-plated steel plates by chromate treatment with a bath containing Zr fluoride and Zn ions and having a low Cr6+/Cr3+ ratio and coating with a solvent-type thermosetting composition obtained by adding silica and/or a sparingly water-soluble Cr compound to a basic epoxy resin. The method minimizes the elution of Cr in spite of low drying temps. Treating a Ni-Zn alloy-plated steel plate with a solution containing CrO3 5, PO43- 4, ZrF62- 0.5, and Zn2+ 1 g/L (Cr6+/Cr3+ = 1; CrO42-/ZrF62- = 10), coating with a solution containing 60% mixture of dibutyltin dilaurate 1.0, ethylene glycol mono-Et ether-blocked MDI 25, and dipropanolamine-Epikote 1009 adduct 100 parts and 40% 3:1 Aerosil R811-BaCrO4, and baking at 140° gave a plate showing low Cr elution, good coating adhesion, and good anticorrosion properties.

IC ICM C23C0022-38

ICS C23C0022-83

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 55

ST chromate steel corrosion prevention; zinc steel corrosion prevention; phosphate steel corrosion prevention; zirconium fluoride steel anticorrosion; epoxy coating steel anticorrosive; silica coating steel anticorrosive; adhesion epoxy coating steel; automobile body steel anticorrosive

IT Coating materials

(anticorrosive, chromate solns. and epoxy resins, on steel panels for automobiles)

IT Automobiles

(body panels, anticorrosive steel for, manufacture of)

IT 12597-63-2

RL: MSC (Miscellaneous)  
 (coating materials, anticorrosive, chromate solns. and epoxy resins, on steel panels for automobiles)

IT 77-99-6D, reaction products with isophorone diisocyanate 80-05-7D, polymers with epichlorohydrin and polyisocyanates 106-89-8D, polymers with bisphenol A and polyisocyanates 4098-71-9D, reaction products with trimethylolpropane 14002-33-6D, polymers with polyepoxides and polyisocyanates  
 RL: USES (Uses)  
 (coatings containing, for steel panels, anticorrosive)

IT 111-42-2D, Diethanolamine, reaction products with epoxy resins 112-05-0D, Pelargonic acid, reaction products with epoxy resins 141-43-5D, Monoethanolamine, reaction products with epoxy resins 30228-06-9D, Isophoronediiisocyanate-trimethylolpropane copolymer, reaction products with epoxy resins  
 RL: USES (Uses)  
 (coatings containing, on chromate-treated steel, anticorrosive)

IT 7738-94-5, Chromic acid (H2CrO4)  
 RL: USES (Uses)  
 (coatings containing, on steel panels, anticorrosive)

IT 7631-86-9, Silica, uses and miscellaneous 7758-97-6 7789-00-6, Potassium chromate 7789-06-2, Strontium chromate 10294-40-3, Barium chromate 12433-50-0 13765-19-0, Calcium chromate 20160-85-4 23713-49-7, Zinc(II) ion, uses and miscellaneous 49663-84-5, Zinc chromate hydroxide (Zn5(CrO4)(OH)8)  
 RL: USES (Uses)  
 (coatings containing, on steel plates, anticorrosive)

IT 25068-38-6, Epikote 1004 127195-73-7  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (coatings, on chromate-treated steel plates, anticorrosive)

IT 52360-06-2 89944-95-6 97365-06-5 118889-49-9  
 RL: USES (Uses)  
 (steel panels plated with, corrosion-resistant)

IT 12597-69-2  
 RL: MSC (Miscellaneous)  
 (coating materials, anticorrosive, chromate solns. and epoxy resins, on steel panels for automobiles)

RN 12597-69-2 HCAPLUS  
 CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 12433-50-0 20160-85-4 49663-84-5, Zinc chromate hydroxide (Zn5(CrO4)(OH)8)  
 RL: USES (Uses)  
 (coatings containing, on steel plates, anticorrosive)

RN 12433-50-0 HCAPLUS  
 CN Potassium zinc chromate oxide (K2Zn4(CrO4)40) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	1	17778-80-2
CrO4	4	13907-45-4
Zn	4	7440-66-6
K	2	7440-09-7

RN 20160-85-4 HCAPLUS  
 CN Zirconate(2-), hexafluoro-, (OC-6-11)- (CA INDEX NAME)



RN 49663-84-5 HCAPLUS

CN Zinc chromate hydroxide (Zn5(CrO4)(OH)8) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	8	14280-30-9
CrO4	1	13907-45-4
Zn	5	7440-66-6

IT 127195-73-7

RL: TEM (Technical or engineered material use); USES (Uses)  
(coatings, on chromate-treated steel plates, anticorrosive)

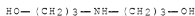
RN 127195-73-7 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane,  
3,3'-iminobis[1-propanol] and 1,1'-methylenebis[4-isocyanatobenzene] (9CI)  
(CA INDEX NAME)

CM 1

CRN 14002-33-6

CMF C6 H15 N O2



CM 2

CRN 106-89-8

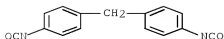
CMF C3 H5 Cl O



CM 3

CRN 101-68-8

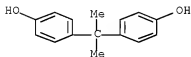
CMF C15 H10 N2 O2



CM 4

CRN 80-05-7

CMF C15 H16 O2



IT 52360-06-2 89944-95-6 97365-06-5  
118889-49-9

RL: USES (Uses)

(steel panels plated with, corrosion-resistant)

RN 52360-06-2 HCAPLUS

CN Zinc alloy, base, Zn 88, Ni 12 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	88	7440-66-6
Ni	12	7440-02-0

RN 89944-95-6 HCAPLUS

CN Zinc alloy, base, Zn 75, Fe 25 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	75	7440-66-6
Fe	25	7439-89-6

RN 97365-06-5 HCAPLUS

CN Manganese alloy, base, Mn 60, Zn 40 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Mn	60	7439-96-5
Zn	40	7440-66-6

RN 118889-49-9 HCAPLUS

CN Zinc alloy, base, Zn 94, Al 5, Mo 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	94	7440-66-6
Al	5	7429-90-5

Mo

0.5

7439-98-7

L116 ANSWER 19 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1987:556500 HCAPLUS Full-text

DN 107:156500

TI Thin-film-type durable anticorrosive coating material compositions

IN Kurokawa, Yukichi; Aoki, Hiroshi; Matsuo, Shunichi

PA Shinto Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62054772	A	19870310	JP 1985-195154	19850904 <--
	JP 07030271	B	19950405		
PRAI	JP 1985-195154		19850904	<--	

AB Undercoating materials contain polymeric epoxy polyol resins, polyisocyanates, rustproofing pigments, H3PO4, and coupling agents. Zn-plated steel was coated with a mixture of Epikote 1009, solvents, additives, H3PO4, and hexamethylene diisocyanate and topcoated with an epoxy coating composition

IC ICM C09D0005-08

ICS C09D0003-72

CC 42-9 (Coatings, Inks, and Related Products)

Section cross-reference(s): 55, 56

IT 2530-83-6. A187

RL: USES (Uses)

(coupling agents, in anticorrosive undercoatings)

IT 110585-87-0

RL: USES (Uses)

(undercoatings containing rustproofing pigments and)

IT 7664-38-2, Phosphoric acid, uses and miscellaneous

RL: USES (Uses)

(undercoatings containing, anticorrosive)

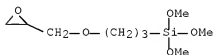
IT 2930-83-8, A187

RL: USES (Uses)

(coupling agents, in anticorrosive undercoatings)

RN 2530-83-8 HCAPLUS

CN Oxirane, 2-[[3-(trimethoxysilyl)propoxymethyl]- (CA INDEX NAME)



IT 110585-87-0

RL: USES (Uses)

(undercoatings containing rustproofing pigments and)

RN 110585-87-0 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane  
and Sumidur N 75 (9CI) (CA INDEX NAME)

CM 1

CRN 72429-63-1

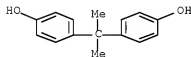
CMF Unspecified  
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2  
CRN 106-89-8  
CMF C3 H5 Cl O



CM 3  
CRN 80-05-7  
CMF C15 H16 O2



IT 7664-38-2, Phosphoric acid, uses and miscellaneous  
RL: USES (Uses)  
(undercoatings containing, anticorrosive)  
RN 7664-38-2 HCAPLUS  
CN Phosphoric acid (CA INDEX NAME)



L116 ANSWER 20 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN  
AN 1985:167961 HCAPLUS [Full-text](#)  
DN 102:167961  
TI Reactive hot-melt adhesives  
PA W. R. Grace and Co., USA  
SO Jpn. Kokai Tokkyo Koho, 19 pp. ADDN to Jpn. Kokai Tokyo Koho Appl. No. 82  
171,086.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 4

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 59204611 A 19841120 JP 1983-77363 19830430 <--  
 JP 58080317 A 19830514 JP 1982-171086 19821001 <--  
 PRAI JP 1982-171086 19821001 <--  
 US 1981-317647 A 19811102 <--

AB A reactive hot-melt adhesive comprises a thermoplastic polyurethane containing an epoxy side chain, which is prepared by treating an epoxy resin with an isocyanate-terminated polyurethane prepolymer. Thus, 127.8 g polypropylene glycol was treated with 61.4 g toluene diisocyanate for 4 days to give an isocyanate-terminated polyurethane prepolymer. Then, 71.6 g prepolymer was treated with 357 g Epon 1001 F (epoxy resin, OH equivalent 357) in the presence of 6 g dicyandiamide and 1 g Ph3P at 80° for 1 h to give a hot-melt adhesive. A steel plate was coated with the adhesive at 125°, pressed with another steel plate, and cured at 160° for 30 min to give a product having peel strength 3200 psi.

IC C08G0018-58; C09J0003-16; C09K0003-10  
 CC 38-3 (Plastics Fabrication and Uses)  
 ST polyurethane epoxy hot melt adhesive; polypropylene glycol polyurethane epoxy adhesive; toluene diisocyanate polyurethane epoxy adhesive;  
 IT steel reactive hot melt adhesive  
 IT 12597-69-2, uses and miscellaneous  
 RL: USES (Uses)  
 (plates, reactive hot-melt adhesives for, polyurethanes with epoxy side chains as)

IT 101-68-8D, polymers with Epon 1001 F and polycaprolactone diol  
 25068-38-6D, polymers with MDI and polycaprolactone diol 25248-42-4D,  
 diol derivs., polymers with MDI and Epon 1001 F 78099-73-7  
 92488-61-4  
 RL: USES (Uses)  
 (reactive hot-melt adhesives from, manufacture of)

IT 12597-69-2, uses and miscellaneous  
 RL: USES (Uses)  
 (plates, reactive hot-melt adhesives for, polyurethanes with epoxy side chains as)

RN 12597-69-2 HCAPLUS  
 CN Steel (CA INDEX NAME)

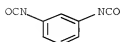
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 92488-61-4  
 RL: USES (Uses)  
 (reactive hot-melt adhesives from, manufacture of)

RN 92488-61-4 HCAPLUS  
 CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 1,3-diisocyanatomethylbenzene and  $\alpha$ -hydro- $\alpha$ -hydroxypoly(oxy-1,2-ethanediyl) (CA INDEX NAME)

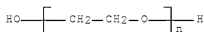
CM 1

CRN 26471-62-5  
 CMF C9 H6 N2 O2  
 CCI IDS



Di-Me

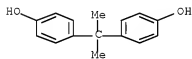
CM 2  
 CRN 25322-68-3  
 CMF (C2 H4 O)<sub>n</sub> H2 O  
 CCI PMS



CM 3  
 CRN 106-89-8  
 CMF C3 H5 Cl O



CM 4  
 CRN 80-05-7  
 CMF C15 H16 O2



L116 ANSWER 21 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1984:593318 HCAPLUS Full-text

DN 101:193318

TI Thermoplastic with urethane and pendant epoxy groups and thermosetting adhesive containing it

IN Lin, Shiow Ching

PA W. R. Grace and Co., USA

SO Fr. Demande, 42 pp. Addn. to Fr. Demande Appl. No. 82 18282.

CODEN: FRXXBL

DT Patent

LA French

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2536753	A2	19840601	FR 1983-7195	19830429 <--
	FR 2536753	B2	19870619		
	FR 2515659	A1	19830506	FR 1982-18282	19821029 <--



FR 2515659 B1 19870320  
 CA 1229192 A1 19871110 CA 1983-423760 19830316 <--  
 PRAI US 1982-444987 A 19821129 <--  
 FR 1982-18282 19821029 <--  
 US 1981-317647 A 19811102 <--

AB An epoxy resin containing  $\geq 2$  OH groups reacts with a diol-polyisocyanate reaction product to give a melt-processable, thermosetting thermoplastic containing pendant epoxy groups which is applied to substrates as an adhesive and cured by heating, giving strong joints. Thus, 61 g reaction product prepared from 127.8 g polypropylene glycol (mol. weight 725) and 61.4 g TDI was mixed with 6 g dicyandiamide and 100 g reaction product (epoxide equivalent weight 292) prepared from 100 g bisphenol A diglycidyl ether and 15 g bisphenol A. The molten mixture was applied to steel surfaces at 100°, and the surfaces were pressed together and heated 30 min at 180° to give a joint with shear strength 241 + 105 Pa (ASTM D 1002-64, 1.27 cm overlap).

IC C08G0018-58; C08G0059-18; C09D0003-72; C09J0003-16; C09K0003-10  
 CC 38-3 (Plastics Fabrication and Uses)

IT 101-68-8D, polymers with diols and epoxy-containing polyols 9003-17-2D, hydroxy-terminated, polymers with epoxy-containing polyols and tolylene diisocyanate 24980-41-4D, ethers with diols, polymers with epoxy-containing polyols and isocyanates 25068-38-6D, polymers with isocyanate-terminated diols 26471-62-5D, polymers with diols and epoxy-containing polyols 39280-07-4D, polymers with epoxy-containing polyols and isocyanates 78099-73-7 78099-73-7 78099-73-7 92488-61-4 92488-62-5 92489-08-2 92529-64-1D, polymers with isocyanate-terminated diols  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (adhesives, hot-melt, thermosetting)

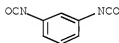
IT 92488-61-4  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (adhesives, hot-melt, thermosetting)

RN 92488-61-4 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-chloromethyl)oxirane, 1,3-diisocyanatomethylbenzene and  $\alpha$ -hydro- $\alpha$ -hydroxypoly(oxy-1,2-ethanediyl) (CA INDEX NAME)

CM 1

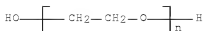
CRN 26471-62-5  
 CMF C9 H6 N2 O2  
 CCI IDS



D1—Me

CM 2

CRN 25322-68-3  
 CMF (C2 H4 O)<sub>n</sub> H2 O  
 CCI PMS



CM 3

CRN 106-89-8

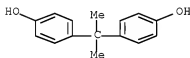
CMF C3 H5 Cl O



CM 4

CRN 80-05-7

CMF C15 H16 O2



L116 ANSWER 22 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1979:56295 HCAPLUS Full-text

DN 90:56295

TI Finishing agents for canvas in paper-making machines

IN Sasaki, Dai; Sasano, Tetsuo; Komuro, Masaya

PA Shikishima Spinning Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

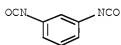
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 53114898	A	19781006	JP 1977-26238	19770309 <--
	JP 55033811	B	19800903		
PRAI	JP 1977-26238	A	19770309	<--	

AB Primary condensates of epoxy compds., polyisocyanates, and polyols and curing agents are dispersed in H2O to give finishing agents for paper-making canvas. Thus, 470 parts Epon 834 and 104.4 parts tolylene diisocyanate were stirred 1 h at 90°, 360 parts polyethylene glycol (mol. weight 600) added, and stirred at 90° until free NCO groups disappeared. A composition of the above copolymer [68985-79-5] 15, H2O 85, and triethylenetetramine 0.6 part was applied to polyamide multifilament yarns to 75% pickup, dried 10 min at 100°, and heated 5 min at 180°. The yarns were woven to give canvas having good dimensional stability, working stability, and durability.

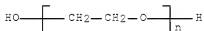
IC C08G0018-58

CC 39-10 (Textiles)  
 Section cross-reference(s): 43  
 IT 68985-78-4 92488-61-4  
 RL: USES (Uses)  
 (finishing agents, for paper-making canvas)  
 IT 92488-61-4  
 RL: USES (Uses)  
 (finishing agents, for paper-making canvas)  
 RN 92488-61-4 HCAPLUS  
 CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 1,3-diisocyanatomethylbenzene and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) (CA INDEX NAME)  
 CM 1  
 CRN 26471-62-5  
 CMF C9 H6 N2 O2  
 CCI IDS



D1-Me

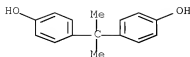
CM 2  
 CRN 25322-68-3  
 CMF (C2 H4 O)<sub>n</sub> H2 O  
 CCI PMS



CM 3  
 CRN 106-89-8  
 CMF C3 H5 Cl O



CM 4  
 CRN 80-05-7  
 CMF C15 H16 O2



=> fil reg

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 DICTIONARY FILE UPDATES: 1 OCT 2007 HIGHEST RN 948988-82-7

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 on property searching in REGISTRY, refer to:

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=> => d bib abs hitstr retable tot

L137 ANSWER 1 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2005:545703 HCAPLUS Full-text

DN 143:79747

TI Aqueous resin particles for cathodic electrodeposition coating  
 compositions with balanced smoothness and defect resistance

IN Hisashi, Mito; Fujimura, Yuki; Ohata, Masatoshi; Mihara, Yasuhisa; Hori,  
 Hitoshi

PA Nippon Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005162916	A	20050623	JP 2003-405288	20031204 <--
PRAI	JP 2003-405288		20031204	<--	
AB	Title particles are prepared by emulsion polymerization of monomer mixts. containing alkoxysilyl-containing $\alpha,\beta$ -ethylenically unsatd. monomers in the presence of dispersing agents having ammonium group obtained by adding				

tertiary amines and organic acids to epoxy-containing resins. Thus, glycidyl methacrylate 19, 2-ethylhexyl methacrylate 60, 2-hydroxyethyl methacrylate 20, and Bu methacrylate 1 parts were polymerized to give a copolymer with weight average mol. weight 17,900, 7 parts dimethylaminoethanol and 15 parts 50% aqueous lactic acid solution were added therein and heated to give an ammonium-containing copolymer, 20 parts of which was mixed with 270 parts water, 1.5 parts acetic acid-neutralized 2,2'-azobis[2-(2-imidazolyl-2-yl)propane] were added therein, a monomer solution containing Me methacrylate, styrene, Bu methacrylate,  $\gamma$ -methacryloyloxypropyltriethoxysilane was added therein and polymerized to give an aqueous resin particle dispersion with solid content 38% and average particle diameter 90 nm, which was formulated with epoxy-based resin, pigment dispersant, and a blocked isocyanate, electrodeposited onto zinc phosphate-treated steel plate, and baked at 160° for 15 min to give a cured coating, showing good smoothness and defect resistance.

IT 133988-63-3DP, sulfonated

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pigment dispersant; aqueous resin particles for cathodic electrodeposition coating compns. with balanced smoothness and defect resistance)

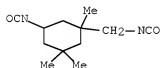
RN 133988-63-3 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (CA INDEX NAME)

CM 1

CRN 4098-71-9

CMF C12 H18 N2 O2



CM 2

CRN 106-89-8

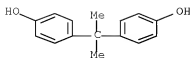
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



L137 ANSWER 2 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2004:1127448 HCAPLUS [Full-text](#)

DN 142:58372

TI Highly corrosion-resistant surface-treated steel sheet and method for producing same

IN Miyoshi, Tatsuya; Sasaki, Kenichi; Yoshimi, Naoto; Matsuzaki, Akira; Okai, Kazuhisa; Ooshima, Takao; Nakano, Takashi; Murata, Masahiro; Tanaka, Syoichi

PA JFE Steel Corporation, Japan; Kansai Paint Co., Ltd.

SO PCT Int. Appl., 122 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004111141	A1	20041223	WO 2004-JP8650	20040614 <--
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	JP 2006002167	A	20060105	JP 2004-173337	20040611 <--
	EP 1634932	A1	20060315	EP 2004-736805	20040614 <--
	R:	DE, FR, GB			
	CN 1836016	A	20060920	CN 2004-80023517	20040614 <--
	US 2006141230	A1	20060629	US 2005-559641	20051202 <--
PRAI	JP 2003-171344	A	20030616	<--	
	JP 2004-146334	A	20040517	<--	
	WO 2004-JP8650	W	20040614	<--	

AB A surface-treated steel sheet is disclosed which comprises a zinc-plated steel sheet, a surface treatment film formed on the surface of the zinc-plated steel sheet by applying a surface treatment composition to the steel sheet and drying it, and an upper coating film formed over the surface treatment film by applying a coating composition for the upper coating film over the surface treatment film and drying it. The surface treatment composition contains an aqueous epoxy resin dispersion, a silane coupling agent, and a phosphoric acid and/or a fluorometallic acid. The coating composition for the upper coating film contains a high mol. weight, epoxy group-containing resin having a number-average mol. weight of 6000-20,000.

IT 85023-89-8P, Bisphenol A;epichlorohydrin;formaldehyde;melamine copolymer

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP

(Properties); TEM (Technical or engineered material use); PREP

(Preparation); USES (Uses)

(coatings for manufacture of highly corrosion-resistant surface-treated

steel sheets)

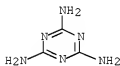
RN 85023-89-8 HCAPLUS

CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)

CM 1

CRN 108-78-1

CMF C3 H6 N6



CM 2

CRN 106-89-8

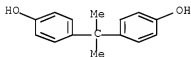
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



CM 4

CRN 50-00-0

CMF C H2 O



IT 7661-38-2, Phosphoric acid, uses 12021-95-3  
 16961-83-4, Hexafluorosilicic acid 17439-11-1,

Hexafluorotitanic acid

RL: MOA (Modifier or additive use); USES (Uses)

(coatings for manufacture of highly corrosion-resistant surface-treated steel sheets)

RN 7664-38-2 HCAPLUS

CN Phosphoric acid (CA INDEX NAME)



RN 12021-95-3 HCAPLUS

CN Zirconate(2-), hexafluoro-, hydrogen (1:2), (OC-6-11)- (CA INDEX NAME)

● 2 H<sup>+</sup>

RN 16961-83-4 HCAPLUS

CN Silicate(2-), hexafluoro-, hydrogen (1:2) (CA INDEX NAME)

● 2 H<sup>+</sup>

RN 17439-11-1 HCAPLUS

CN Titanate(2-), hexafluoro-, hydrogen (1:2), (OC-6-11)- (CA INDEX NAME)





● 2 H<sup>+</sup>

IT 11149-84-1 12609-49-3 52360-06-2  
58465-32-0 112964-43-9 142240-64-0  
208469-25-4

RL: MSC (Miscellaneous)

(plating on steel; coatings for manufacture of highly  
corrosion-resistant surface-treated steel sheets)

RN 11149-84-1 HCAPLUS

CN Aluminum alloy, nonbase, Al,Zn (CA INDEX NAME)

Component	Component Registry Number
Al	7429-90-5
Zn	7440-66-6

RN 12609-49-3 HCAPLUS

CN Aluminum alloy, base, Al 94,Si 6 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	94	7429-90-5
Si	6	7440-21-3

RN 52360-06-2 HCAPLUS

CN Zinc alloy, base, Zn 88,Ni 12 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	88	7440-66-6
Ni	12	7440-02-0

RN 58465-32-0 HCAPLUS

CN Zinc alloy, base, Zn 90,Fe 10 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	90	7440-66-6
Fe	10	7439-89-6

RN 112964-43-9 HCAPLUS

CN Zinc alloy, base, Zn 100,Mg 0.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
-----------	----------------------	------------------------------

```

=====+=====+=====
Zn          100          7440-66-6
Mg           0.5         7439-95-4

```

RN 142240-64-0 HCAPLUS

CN Zinc alloy, base, Zn 94,Al 5,Mg 0.5 (CA INDEX NAME)

```

Component      Component      Component
                Percent        Registry Number
=====+=====+=====
Zn              94             7440-66-6
Al               5             7429-90-5
Mg              0.5            7439-95-4

```

RN 208469-25-4 HCAPLUS

CN Zinc alloy, base, Zn 91,Al 6,Mg 3 (CA INDEX NAME)

```

Component      Component      Component
                Percent        Registry Number
=====+=====+=====
Zn              91             7440-66-6
Al               6             7429-90-5
Mg               3             7439-95-4

```

IT 12597-69-2, Steel, miscellaneous

RL: MSC (Miscellaneous)

(substrate, Zn alloy-plated; coatings for manufacture of highly corrosion-resistant surface-treated steel sheets)

RN 12597-69-2 HCAPLUS

CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RETABLER

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Kansai Paint Co Ltd	2001			JP 2001239517 A	HCAPLUS
Kansai Paint Co Ltd	2003			JP 200334713 A	
Nkk Corp	2001			JP 2001335965 A	HCAPLUS
Nkk Corp	2002			IEP 129453 A1	
Nkk Corp	2002			IWO 200192602 A1	
Nkk Corp	2002			JP 200253979 A	

L137 ANSWER 3 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2004:963075 HCAPLUS Full-text

DN 141:396948

TI Lubricating metal sheet with good drawing and ironing workability for can

IN Inomata, Takashi; Amaki, Shingo; Maruki, Shinichiro

PA Kansai Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Parent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004314415	A	20041111	JP 2003-110927	20030416 <--
PRAI JP 2003-110927		20030416	<--	

AB The sheet with high corrosion resistance has a coating film containing epoxy resins and waxes having softening point  $\geq 30^\circ$  on the surface for can inside,

wherein the film satisfies dry weight 10-85 mg/100 cm<sup>2</sup>, dynamic friction coefficient at 60° 0.03-0.20, and pencil hardness at 60° ≥ H. The can formed by (1) drawing and ironing the sheet and then coating the resulting can inside, (2) drawing and ironing the sheet and then coating or film-laminating the resulting can outside, or (3) coating or film-laminating the sheet and then drawing and ironing the coated or laminated sheet is also claimed. Thus, an AA 3004 (Al alloy) sheet was coated with a mixture containing Epikote 1009 (bisphenol A epoxy resin), Hitanol 3305N (phenolic resin), Hi-Disper F 10PC (carnauba wax), and other additives and heated to give a coated sheet showing dynamic friction coefficient at 60° 0.06 and good drawing and ironing workability.

IT 85023-89-8P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(coating; epoxy resin- and wax-coated lubricating metal sheet with good drawing and ironing workability for can)

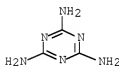
RN 85023-89-8 HCAPLUS

CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)

CM 1

CRN 108-78-1

CMF C3 H6 N6



CM 2

CRN 106-89-8

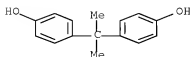
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



CM 4  
 CRN 50-00-0  
 CMF C H2 O

H<sub>2</sub>C=O

IT 12597-69-2, Steel, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (sheet; epoxy resin- and wax-coated lubricating metal sheet with good  
 drawing and ironing workability for can)  
 RN 12597-69-2 HCAPLUS  
 CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L137 ANSWER 4 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2003:913252 HCAPLUS Full-text  
 DN 139:382838  
 TI Coating compositions for prestressed concrete tension materials  
 IN Hirata, Seiichiro; Shirahama, Shoji; Kobayashi, Toshio; Aoyama, Ichirou  
 PA Shinko Wire Co., Ltd., Japan  
 SO PCT Int. Appl., 31 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

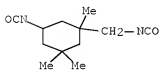
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003095572	A1	20031120	WO 2003-JP5810	20030509 <--
	W: CN, US				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
	JP 2004043767	A	20040212	JP 2002-357247	20021209 <--
	US 2005171302	A1	20050804	US 2003-514039	20030509 <--
	CN 1653143	A	20050810	CN 2003-810832	20030509 <--
PRAI	JP 2002-137736	A	20020513	<--	
	JP 2002-357247	A	20021209	<--	
	WO 2003-JP5810	W	20030509	<--	
AB	Title compns., which are coated on tension materials and embedded in concrete to develop tension over 30 days and to adjust the curing time, contain epoxy resins, polyfunctional isocyanates, CaO, and water. A composition containing R 140 72.3, IPDI 2.17, CaO 13.77, CaCO <sub>3</sub> 10.21, SiO <sub>2</sub> 1.38, and water 0.17 g showed initial viscosity (VS) of 65 Pa-s with good storage stability, which was coated on steel rods, covered with a polyethylene sheath material, and embedded in concrete for 30 days. The composition from the coated rods embedded over 30 days showed VS of 610 Pa-s and the composition from the coated rods embedded over 1.5 yr showed Durameter D hardness of 46.				
IT	133988-63-3P				
	RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polyisocyanate- and CaO-containing epoxy resin coatings for tension materials for prestressed concrete)				
RN	133988-63-3	HCAPLUS			

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (CA INDEX NAME)

CM 1

CRN 4098-71-9

CMF C12 H18 N2 O2



CM 2

CRN 106-89-8

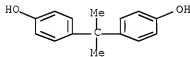
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



# RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Mitsui Chemicals Inc	2000			EP 1048682 A2	HCAPLUS
Mitsui Chemicals Inc	2000			JP 20019825 A	
Mitsui Chemicals Inc	2000			US 6387310 B1	
Mitsui Sekiyu Kagaku Ko	1990			US 4929650 A	
Mitsui Sekiyu Kagaku Ko	1990			JP 64-31873 A	
Sumitomo Electric Indus	2000			JP 2000281967 A	HCAPLUS

L137 ANSWER 5 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:582804 HCAPLUS [Full-text](#)

DN 139:151170

TI Anticorrosive coating of non-chromated metal tube surface and method for pretreatment of the surface  
 IN Yamamoto, Masato; Kutsuma, Shuichi; Urushima, Hideto; Akui, Jun  
 PA Kansai Paint Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN,CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003213456	A	20030730	JP 2002-13681	20020123 <--
PRAI	JP 2002-13681		20020123	<--	

AB In the method, metal tube surface is pretreated prior to covering with resin layers where the pretreatment is derived from a mixture of (A) aqueous solution containing the reaction products of hydrolyzable Ti compound or/and its lower condensate or/and Ti hydroxide or/and its lower condensate with H2O2, and (B) P compds., PH, metal halides or/and salts, Si halides or/and salts or/and organic acid or/and its salts. Thus, dropping a 1:9 NH3 water into 500 mL solution made from 5 mL 60% aqueous solution of TiCl4 and water, washing the resulting precipitated Ti hydroxide with water, and mixing with 10 mL a 30% H2O2 solution gave a semi-transparent yellow liquid of 70 mL volume. Dipping a degreased Zn-plated steel plate in a solution containing the liquid 50, 10% orthophosphoric acid 5 and water 45 parts at 30° for 30 s, baking at 160° for 10 min, spray coating the pretreated surface with an epoxy resin, baking and coating with a vinylidene fluoride resin layer gave a finished tube with good salt-spray corrosion test resistance.

IT 37346-11-5

RL: TEM (Technical or engineered material use); USES (Uses)  
 (plating on steel for tubes; hydrolyzable titanium compds.  
 for pretreatment of metal tubes prior to multilayer anticorrosive coating and method for pretreatment)

RN 37346-11-5 HCAPLUS

CN Nickel alloy, nonbase, Ni,Zn (CA INDEX NAME)

Component	Component Registry Number
Ni	7440-02-0
Zn	7440-66-6

IT 7664-38-2, Orthophosphoric acid, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
 (pretreatment with titanium compds.; hydrolyzable titanium compds. for pretreatment of metal tubes prior to multilayer anticorrosive coating and method for pretreatment)

RN 7664-38-2 HCAPLUS

CN Phosphoric acid (CA INDEX NAME)



IT S5023-39-8, Bisphenol A-epichlorohydrin-formaldehyde-melamine copolymer

RL: TEM (Technical or engineered material use); USES (Uses)

(surface under coating; hydrolyzable titanium compds. for pretreatment of metal tubes prior to multilayer anticorrosive coating and method for pretreatment)

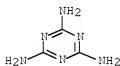
RN 85023-89-8 HCAPLUS

CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)

CM 1

CRN 108-78-1

CMF C3 H6 N6



CM 2

CRN 106-89-8

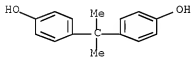
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



CM 4

CRN 50-00-0

CMF C H2 O



IT 12597-69-2, Steel, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (tubes; hydrolyzable titanium compds. for pretreatment of metal tubes  
 prior to multilayer anticorrosive coating and method for pretreatment)  
 RN 12597-69-2 HCAPLUS  
 CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L137 ANSWER 6 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:602002 HCAPLUS Full-text

DN 137:141903

TI Formation of multilayer coatings by three-coat-one-bake process with  
 excellent appearance

IN Nakazawa, Noriyuki; Ishii, Toshiyuki; Yamamoto, Takeshi

PA Nippon Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002224614	A	20020813	JP 2001-26200	20010202 <--
PRAI	JP 2001-26200		20010202	<--	

AB A middle coating, a top base coating, and a top clear coating are applied successively on a substrate precoated with cationic electrodeposition coating with PhMe swelling ratio ≤25% and are cured simultaneously by heating. Thus, adding 147 parts TDI dropwise to a mixture of Epikote 828 633, MeOH 65, MIBK 169, and dibutyltin dilaurate 0.3 part, adding 2 parts Me2NCH2Ph to the mixture, heating with removing byproduct MeOH to form oxazolidone ring, adding p-nonylphenol and MIBK, further heating, adding aminoethylethanolamine ketimine 40, diethanolamine 35, N-methylethanolamine 25, and MIBK 15 parts, and further treating gave a cationic epoxy resin, which was mixed with blocked IPDI 350, an amino-containing acrylic resin 90, and ethylene glycol monoethyl ether 140 parts, and dispersed in H2O with AcOH. A dull steel sheet was treated with Zn phosphate, coated with a cationic electrodeposition coating containing the dispersion, H2O, and a pigment paste, baked, further coated with polyester-amino resin coating (Orga S 90 Sealer Gray), Al-containing acrylic amino resin base (Superlac M 180 Silver), and acrylic melamine resin clear (Superlac O 130 Clear), and baked to form multilayer coating showing good appearance.

IT 133988-63-3DP, quaternized  
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP  
 (Preparation); USES (Uses)  
 (pigment dispersant; three-coat-one-bake coating on cationic  
 electrodeposition coating with good appearance)

RN 133988-63-3 HCAPLUS

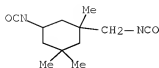
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-  
 (chloromethyl)oxirane and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-  
 trimethylcyclohexane (CA INDEX NAME)

CM 1

CRN 4098-71-9

CMF C12 H18 N2 O2





CM 2

CRN 106-89-8

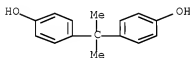
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



IT 12597-69-2, Steel, uses

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(three-coat-one-bake coating on cationic electrodeposition coating with good appearance)

RN 12597-69-2 HCAPLUS

CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L137 ANSWER 7 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:365012 HCAPLUS [Full-text](#)

DN 136:342201

TI Method for manufacturing pigment dispersant containing cationic epoxy resins and nonvolatile solvents for cationic electrodeposition coating compositions

IN Takekawa, Masahiro; Ando, Akira; Tsutsui, Keisuke; Shirakawa, Shinsuke; Yamada, Mitsuo

PA Nippon Paint Co., Ltd., Japan

SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 15 pp.

CODEN: CNXXEV

DT Patent

LA Chinese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1303897	A	20010718	CN 2000-137345	20001130 <--
	JP 2001220540	A	20010814	JP 2000-360902	20001128 <--
	TW 574328	B	20040201	TW 2000-89125363	20001129 <--
	US 2001039307	A1	20011108	US 2000-725754	20001130 <--
	US 6476101	B2	20021105		
	AU 772913	B2	20040513	AU 2000-71943	20001130 <--
PRAI	JP 1999-339103	A	19991130	<--	

AB Title polymeric dispersant is manufactured by mixing a cationic epoxy resin containing amino, phosphonio and sulfonio groups (prepared from an epoxy resin, an amine, a sulfur or phosphorus compound) with a nonvolatile solvent HO(RO)nQC(CH<sub>3</sub>)<sub>2</sub>Q(OR)mOH (I; R = ethylene or propylene; Q = phenylene; n, m ≥ 1), wherein the nonvolatile solvent is added during or after the cationic epoxy resin is prepared. Thus, 1500 parts main component containing 75/25 amino-modified epoxy resin [obtained from 2,4-/2,6-TDI, bisphenol A-propylene oxide adduct, bisphenol A-type epoxy resin (DER 331J), bisphenol A, diethanolamine, N-ethylethanolamine and aminoethylethanolamine ketimine derivative] and Me Et ketoxime-blocked 2,5(6)-bis(isocyanatomethyl)bicyclo[2.2.1]heptane was mixed with 541.7 parts pigment paste containing carbon black, TiO<sub>2</sub>, Kaolin, aluminum molybdophosphate, bisphenol A-Epikote 829-IPDI copolymer quaternary ammonium salt with dimethylethanolamine lactate and BPE 60 solvent (I, R = ethylene, m + n = 6), 9 parts dibutyltin oxide and deionized water 1949.3, coated on a treated steel panel and baked, showing good flowability and good appearance.

IT 133988-63-3DP, Bisphenol A-epichlorohydrin-isophoronedisocyanate copolymer, quaternary ammonium salts with dimethylethanolamine lactate RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)

(dispersant; method for manufacturing pigment dispersant containing cationic epoxy resins and nonvolatile solvents for cationic electrodeposition coating compns.)

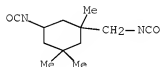
RN 133988-63-3 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (CA INDEX NAME)

CM 1

CRN 4098-71-9

CMF C12 H18 N2 O2



CM 2

CRN 106-89-8

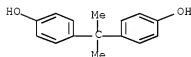
CMF C3 H5 C1 O



CM 3

CRN 80-05-7

CMF C15 H16 O2



L137 ANSWER 8 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:202175 HCAPLUS [Full-text](#)

DN 136:249086

TI Metal plates coated with hexavalent chromium-free anticorrosive layers

IN Ikishima, Kenji; Takahashi, Masaru; Tomiyasu, Takeshi; Hirayama, Michio; Yonetani, Satoru

PA Sumitomo Metal Industries, Ltd., Japan; Sumitomo Metal Steel Products Inc.

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002079175	A	20020319	JP 2000-266961	20000904 <--
PRAI	JP 2000-266961		20000904	<--	

AB The plates are coated with undercoats and topcoats, wherein both coats contain 5-50 volume%  $\geq 1$  anticorrosive pigments chosen from phosphoric acid Zn, Al, Mg, Ca, and Ba salts. Thus, a galvanized steel plate was coated with a composition containing Vylon 29CS (OH-terminated polyester), Cymel 303 (I; methylmethoxylated melamine), and 20 volume% Al phosphate, baked, coated with a composition containing Vylon 63CS (OH-terminated polyester), I, and 30 volume% Mg phosphate, and baked, resulting in good bending processability and no blister after salt spray test.

IT 85023-89-8P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

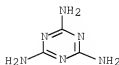
(metal plates coated with hexavalent chromium-free anticorrosive layers)

RN 85023-89-8 HCAPLUS

CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)

CM 1

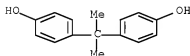
CRN 108-78-1  
CMF C3 H6 N6



CM 2  
CRN 106-89-8  
CMF C3 H5 Cl O



CM 3  
CRN 80-05-7  
CMF C15 H16 O2



CM 4  
CRN 50-00-0  
CMF C H2 O



L137 ANSWER 9 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN  
AN 2001:568418 HCAPLUS [Full-text](#)  
DN 135:154156  
TI Pigment dispersion pastes and their cationic electrodepositing coating compositions  
IN Takekawa, Masahiro; Ando, Akira; Shirakawa, Shinsuke; Yamada, Mitsuo  
PA Nippon Paint Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 7 pp.  
CODEN: JKXXAF

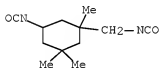
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001214118	A	20010807	JP 2000-21706	20000131 <--
PRAI	JP 2000-21706		20000131	<--	
AB	Title pastes contain carbon black having average diameter of 15-30 nm and pH value (H+ concentration on particle surface) of 2.5-4.5. A phosphated steel plate was coated with an aqueous composition (with organic solvent content of 0.5%) containing Bu <sub>2</sub> SnO, an aqueous paste (containing 22-nm carbon black with pH of 3.5 and bisphenol A-Epikote 829-IPDI copolymer quaternary ammonium salt with dimethylethanolamine lactate), and an emulsion (containing blocked MDI, HOAc, and a reaction product of diethanolamine, N-ethylethanolamine, aminoethylethanolamine, bisphenol A, DER 331, TDI, and Newpol BP 5P) and baked at 160° for 15 min to form a 20.2-μm thick film with 60° gloss 67% and surface roughness 0.22 μm.				
IT	133988-63-3D, Bisphenol A-epichlorohydrin-isophoronediiisocyanate copolymer, quaternary ammonium salts with dimethylethanolamine lactate RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses) (in pigment paste; acidic carbon black paste-containing cationic electrodepositions for thick films with high smoothness)				
RN	133988-63-3 HCAPLUS				
CN	Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (CA INDEX NAME)				

CM 1

CRN 4098-71-9

CMF C12 H18 N2 O2



CM 2

CRN 106-89-8

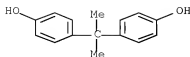
CMF C3 H5 C1 O



CM 3

CRN 80-05-7

CMF C15 H16 O2



L137 ANSWER 10 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:191833 HCAPLUS [Full-text](#)

DN 134:238973

TI Surface treating method for galvanized steel with polymeric coatings and steel plates treated therewith

IN Nakano, Takashi; Murata, Masahiro; Haruta, Yasuhiko; Sakamoto, Akihisa

PA Kansai Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001070878	A	20010321	JP 1999-247236	19990901 <--
PRAI	JP 1999-247236		19990901 <--		

AB The method contains (A) applying compns. comprising H<sub>2</sub>O 100, acid etchants 0.1-5, and curing agents 0.2-10 parts and (B) further applying OH-containing resin compns., wherein the compns. for step A and/or step B contain sulfonic acid-type catalysts and the compns. for both of the steps contain no chromates nor phosphates. Thus, an aqueous composition comprising phenol-formaldehyde copolymer, H<sub>3</sub>PO<sub>4</sub>, and p-toluenesulfonic acid was applied on a galvanized steel plate, over-coated with a storage-stable composition comprising bisphenol A epoxy resin (Epikote 1009) and melamine resin (Cymel 303), and cured to give a base coating showing good corrosion resistance and adhesion to topcoats.

IT 7664-38-2, Phosphoric acid, uses

RL: NUU (Other use, unclassified); USES (Uses)

(etchant; surface treating method for galvanized steel plates with anticorrosive polymeric coatings)

RN 7664-38-2 HCAPLUS

CN Phosphoric acid (CA INDEX NAME)



IT 85023-89-8F

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(surface treating method for galvanized steel plates with anticorrosive polymeric coatings)

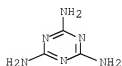
RN 85023-89-8 HCAPLUS

CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)

CM 1

CRN 108-78-1

CMF C3 H6 N6



CM 2

CRN 106-89-8

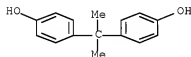
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



CM 4

CRN 50-00-0

CMF C H2 O



L137 ANSWER 11 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:174357 HCAPLUS [Full-text](#)

DN 134:224109

TI Method for finishing galvanized steel surfaces with anticorrosive coatings

IN Murata, Masahiro; Nakano, Takashi; Haruda, Yasuhiko; Sakamoto, Akihisa

PA Kansai Paint Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001064781	A	20010313	JP 1999-242579	19990830 <--
PRAI	JP 1999-242579		19990830	<--	

AB In the method, the steel surfaces are firstly coated with a solution containing water 100, sulfonic acid-type curing catalysts 0.1-5, and Zn-etchable acids 0.1-5 parts, dried, then over-coated with a solution containing OH-containing resins and curing agents, dried and cured by the same curing catalysts. Thus, a pre-coating composition was obtained from water 850, 10% p-toluenesulfonic acid aqueous solution 50 and 10% phosphoric acid aqueous solution 100%, and an over-coating composition was obtained from Epikote 1009 (bisphenol-epichlorohydrin copolymer) 80, and Cymel 303 (melamine polymer) 20%.

IT 85923-89-8, Bisphenol A-epichlorohydrin-formaldehyde-melamine copolymer  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (anticorrosive coating; method for finishing galvanized steel surfaces with anticorrosive coatings)

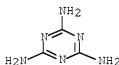
RN 85023-89-8 HCAPLUS

CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)

CM 1

CRN 108-78-1

CMF C3 H6 N6



CM 2

CRN 106-89-8

CMF C3 H5 Cl O

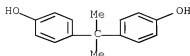


CM 3

CRN 80-05-7



CMF C15 H16 O2



CM 4

CRN 50-00-0

CMF C H2 O

 $H_2C=O$ 

IT 7664-38-2, Phosphoric acid, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (surface pre-treatment; method for finishing galvanized steel  
 surfaces with anticorrosive coatings)  
 RN 7664-38-2 HCAPLUS  
 CN Phosphoric acid (CA INDEX NAME)



L137 ANSWER 12 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2000:713076 HCAPLUS Full-text  
 DN 133:310942  
 TI Zinc-plated and aluminum-plated steel sheets and anticorrosive  
 coating compositions for their protection  
 IN Yoshimi, Naoto; Ando, Satoshi; Furuta, Akihiko; Sagiya, Masaru; Matsuki,  
 Hiroyasu; Tomita, Kenichi; Haruda, Yasuhiko  
 PA Nippon Kokan Co., Ltd., Japan; Kansai Paint Co., Ltd.; Jfe Steel Corp.  
 SO Jpn. Kokai Tokkyo Koho, 13 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN, CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000281946	A	20001010	JP 1999-87455	19990330 <--
	JP 3740884	B2	20060201		
PRAI	JP 1999-87455		19990330	<--	

AB The comps. comprise (A) organic polymers bearing groups derived from  
 hydrazine derivs. and (B) acids which can etch the Al or Zn surface. Thus,  
 heating Epikote 828 1870 with bisphenol A 912, tetraethylammonium bromide 2  
 and MIEK 300 parts at 140° for 4 h, combining the resulting resin with

ethylene glycol monobutyl ether 1500, cooling to 100°, adding 3,5-dimethylpyrazole 96 and Bu2NH 129, heating at 100° until epoxy group disappeared for 6 h, adding MIBK 205 parts while cooling gave a 60% solids solution 100 parts of which was mixed with Takenate B 870N (polyisocyanate) 5, Bu2Sn dilaurate 0.2, fumed silica 20 and FH 1 part to give an anticorrosive coating.

IT 133988-63-3DP, Bisphenol A-epichlorohydrin-isophorone diisocyanate copolymer, modified with hydrazine derivs.  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (zinc-plated and aluminum-plated steel sheets and anticorrosive coating comps. for protection)

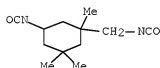
RN 133988-63-3 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (CA INDEX NAME)

CM 1

CRN 4098-71-9

CMF C12 H18 N2 O2



CM 2

CRN 106-89-8

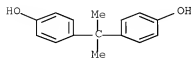
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



L137 ANSWER 13 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2000:560935 HCAPLUS Full-text

DN 133:165222

TI Water-thinned anticorrosive coating compositions with long pot life and excellent curability and water resistance

IN Sawada, Eisuke; Nakano, Tadashi; Iida, Shinji; Tomita, Kenichi

PA Kansai Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000226537	A	20000815	JP 1999-28820	19990205 <--
PRAI	JP 1999-28820		19990205	<--	

AB The comps. comprise (A) aqueous emulsions of epoxy resins with epoxy equivalent 100-1000 prepared by using dispersion stabilizers of modified epoxy resins prepared by reaction of polyethylene glycol (Mn 400-20,000), bisphenol-type epoxy resins, compds. having 1 active H in a mol., and compds. having  $\geq 2$  active isocyanate groups in a mol., (B) CO<sub>2</sub>-containing amine hardeners, and optionally flash rust inhibitors. Thus, polyethylene glycol (Mn 4000) 600, propylene glycol mono-Me ether (I) 13.5, and Epikote 828 (II; epoxy equivalent 190) 380 g were mixed, treated with 52.2 g TDI to NCO value  $\leq 0.5$ , and diluted with 117 g I to give a dispersion stabilizer resin, 35 parts of which was blended with 65 parts II and emulsified with 100 parts H<sub>2</sub>O to give a 50% epoxy resin emulsion. A coating main agent comprising the emulsion 47, Ti white 13, talc 22.85, dispersant 1, defoamer 0.1, antiseptic 0.05, and H<sub>2</sub>O 16 parts was mixed 88:12 with Ancamide 365 (modified polyamide amine containing CO<sub>2</sub>), applied on a steel sheet, and dried at 20° and relative humidity 65% for 7 days to form a coating showing excellent corrosion and water resistance.

IT 107339-11-7EP, Epikote 828-isophorone diisocyanate-polyethylene glycol copolymer, reaction products with propylene glycol mono-Me ether  
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)  
 (dispersion stabilizer; water-thinned anticorrosive epoxy resin coating compns. with long pot life and good curability and water resistance)

RN 107339-11-7 HCAPLUS

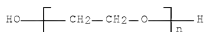
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

CM 1

CRN 25322-68-3

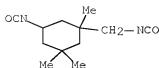
CMF (C2 H4 O)<sub>n</sub> H2 O

CCI PMS



CM 2

CRN 4098-71-9  
CMF C12 H18 N2 O2



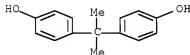
CM 3

CRN 106-89-8  
CMF C3 H5 Cl O



CM 4

CRN 80-05-7  
CMF C15 H16 O2



IT 12597-69-2, Steel, miscellaneous

RL: MSC (Miscellaneous)

(water-thinned anticorrosive epoxy resin coating compns. with long pot life and good curability and water resistance)

RN 12597-69-2 HCAPLUS

CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L137 ANSWER 14 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2000:356576 HCAPLUS [Full-text](#)

DN 132:350944

TI Steel sheets coated with chromium-free corrosion-resistant organic material

IN Yoshimi, Naoto; Ando, Satoshi; Furuta, Akihiko; Sagiya, Masaru; Harada, Yasuhiko; Matsuki, Hiroyasu; Tomita, Kenichi

PA Nippon Kokan Co., Ltd., Japan; Kansai Paint Co., Ltd.

SO Jpn. Kokai Tokkyo Koho, 24 pp.

CODEN: JKXXAF

DT Patent

LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000144443	A	20000526	JP 1998-332061	19981108 <--
	JP 3397149	B2	20030414		
PRAI	JP 1998-332061		19981108	<--	

AB Galvanized or Al alloy-plated steel sheets have an organic coating with thickness 0.1-5  $\mu$ m comprising (1) 100 parts (as solids content) reaction product of (a) organic polymer and (b) active H-containing compound partially or totally composed of hydrazine derivs. and (2) 1-100 parts (as solids content) of (c) ion-exchange SiO<sub>2</sub> or mixture of (c) with (d) SiO<sub>2</sub> fine particles at weight ratio of c/d 1/99-99/1, and optionally with (3) 1-80 parts (as solids content) of  $\geq$ 1 solid lubricant selected from polyolefin wax, paraffin wax, and fluoropolymer micropowder. The organic coating has high adhesion and corrosion resistance and good appearance.

IT 12609-49-3 52308-11-9 52360-06-2  
56539-23-0 112964-43-9 115253-85-5  
119412-76-9 142240-64-0

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(steel plated with; steel sheet with Cr-free corrosion-resistant coating comprising SiO<sub>2</sub> and reaction product of epoxy resin and hydrazine derivative having active H)

RN 12609-49-3 HCAPLUS

CN Aluminum alloy, base, Al 94, Si 6 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	94	7429-90-5
Si	6	7440-21-3

RN 52308-11-9 HCAPLUS

CN Aluminum alloy, base, Al 55, Zn 45 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	55	7429-90-5
Zn	45	7440-66-6

RN 52360-06-2 HCAPLUS

CN Zinc alloy, base, Zn 88, Ni 12 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	88	7440-66-6
Ni	12	7440-02-0

RN 96539-23-0 HCAPLUS

CN Aluminum alloy, base, Al 70, Mn 30 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	70	7429-90-5
Mn	30	7439-96-5

RN 112964-43-9 HCAPLUS

CN Zinc alloy, base, Zn 100,Mg 0.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	100	7440-66-6
Mg	0.5	7439-95-4

RN 115253-85-5 HCAPLUS

CN Zinc alloy, base, Zn 100,Co 0.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	100	7440-66-6
Co	0.5	7440-48-4

RN 119412-76-9 HCAPLUS

CN Zinc alloy, base, Zn 88,Cr 12 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	88	7440-66-6
Cr	12	7440-47-3

RN 142240-64-0 HCAPLUS

CN Zinc alloy, base, Zn 94,Al 5,Mg 0.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	94	7440-66-6
Al	5	7429-90-5
Mg	0.5	7439-95-4

IT 133988-63-3DP, reaction products with mercapto-triazole

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(steel sheet with Cr-free corrosion-resistant coating comprising SiO<sub>2</sub> and reaction product of epoxy resin and hydrazine derivative having active H)

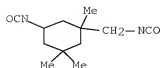
RN 133988-63-3 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (CA INDEX NAME)

CM 1

CRN 4098-71-9

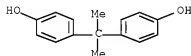
CMF C12 H18 N2 O2



CM 2  
 CRN 106-89-8  
 CMF C3 H5 Cl O



CM 3  
 CRN 80-05-7  
 CMF C15 H16 O2



IT 12597-69-2, Steel, properties  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)  
 (steel sheet with Cr-free corrosion-resistant coating  
 comprising SiO<sub>2</sub> and reaction product of epoxy resin and hydrazine  
 derivative having active H)  
 RN 12597-69-2 HCAPLUS  
 CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L137 ANSWER 15 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1999:316862 HCAPLUS Full-text

DN 130:353705

TI Pre-coat metal plate having good damage resistance, processability and durability

IN Yoshida, Yasuhide; Yoshida, Keiji; Yamashita, Masaaki

PA Nippon Kokan Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11129388	A	19990518	JP 1997-301921	19971104 <--
PRAI	JP 1997-301921		19971104	<--	

AB A zinc or zinc-aluminum alloy plated steel plate is coated with a base coating comprising an epoxy resin, an amino resin and/or isocyanate curing agent, and an elastomer microparticle with average diameter 0.01-5  $\mu$ m wherein the T<sub>g</sub> of

the coating film is 20-110°. Thus, a coating from bisphenol A epoxy (Epiclon 4050) 100, curing agent Cymel 303 55, carboxy-modified acrylic rubber (YR 693) microparticle 25 g was coated on a zinc-aluminum alloy-plated steel plate, showing scratch resistance 8H (qualified at ≥6H), processability 2 (qualified at ≤2), impact resistance 30 (qualified at ≥30) and corrosion resistance 20% (qualified at ≤20%).

IT 12597-69-2, Steel, miscellaneous

RL: MSC (Miscellaneous)

(base coating for metal plate having good damage resistance, processability and durability)

RN 12597-69-2 HCAPLUS

CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 85023-89-8

RL: TEM (Technical or engineered material use); USES (Uses)

(base coating for metal plate having good damage resistance, processability and durability)

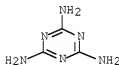
RN 85023-89-8 HCAPLUS

CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)

CM 1

CRN 108-78-1

CMF C3 H6 N6



CM 2

CRN 106-89-8

CMF C3 H5 Cl O

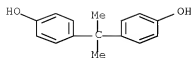


CM 3

CRN 80-05-7

CMF C15 H16 O2





CM 4

CRN 50-00-0

CMF C H2 O

H2C=O

L137 ANSWER 16 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1998:650767 HCAPLUS [Full-text](#)

DN 129:303766

TI Resin-coated and hot-dip aluminized steel plates showing good weather resistance, scratch resistance, and processability

IN Mori, Yoichiro; Yamazaki, Makoto; Yonemura, Seiji; Isaki, Teruaki

PA Nippon Steel Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10264307	A	19981006	JP 1997-76153	19970327 <--
PRAI	JP 1997-76153		19970327	<--	

AB Al hot-dipped steel plates are chromated and then coated with compns. comprising (A) 50-85% (as solid) acrylic resins from Me methacrylate (I), CH<sub>2</sub>:CR<sub>1</sub>CO<sub>2</sub>R<sub>2</sub>OH (R<sub>1</sub> = H, Me; R<sub>2</sub> = alkyl), and optionally comonomers (except for styrene), (B) 5-20% epoxy resins, (C) 10-30% melamine resins, (D) 0.5-5% weather (light) stabilizers and optionally (E) slickening agents and/or waxes to give the title steel plates having 2-4.5 μm-thick coating layers. Thus, a hot-dip aluminized steel plate was chromated, coated with a composition comprising a resin mixture (consisting of I-2-hydroxyethyl methacrylate copolymer 70, butylated melamine resin 20, and bisphenol A-type epoxy resin 10%) and 1% weather stabilizers (hindered amine-based and benzotriazole-based), and baked to give a test piece showing good processability and weather resistance.

IT 12597-69-2, Steel, processes

RL: PEP (Physical, engineering or chemical process); PROC (Process)

(chromated; hot-dip aluminized steel plates having resin

coating layers containing weather stabilizers and optionally lubricants)

RN 12597-69-2 HCAPLUS

CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 85033-89-8P, Bisphenol A-epichlorohydrin-melamine-formaldehyde copolymer

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP

(Preparation); USES (Uses)

(hot-dip aluminized steel plates having resin coating layers containing weather stabilizers and optionally lubricants)

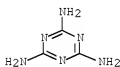
RN 85023-89-8 HCAPLUS

CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)

CM 1

CRN 108-78-1

CMF C3 H6 N6



CM 2

CRN 106-89-8

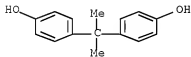
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



CM 4

CRN 50-00-0

CMF C H2 O



L137 ANSWER 17 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1998:115749 HCAPLUS Full-text

DN 128:205992

TI Anticorrosive weldable preprimed steel plates with excellent powdering resistance and coatability

IN Yoshimi, Naoto; Urata, Kasuya; Yamashita, Masaaki; Haruda, Yasuhiko

PA Nippon Kokan Co., Ltd., Japan; Kansai Paint Co., Ltd.

SO Jpn. Kokai Tokkyo Koho, 30 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10043677	A	19980217	JP 1996-223036	19960806 <--
PRAI	JP 1996-223036		19960806 <--		

AB Zinc-plated steel plates for automobile bodies are imparted a chromate layer then a 1.0-30  $\mu$ m-thick layer of compns. from (A) a base resin comprising 100 parts epoxy resins, modified epoxy resins, and/or polyhydroxy polyether resins and 5-80 parts isocyanate compds., (B) corrosion-preventing additives chosen from silica and water-insol. chromate salts at A/B = 99/1-50/50; (C) solid lubricants in an amount of 0.1-30 part to 100 parts A + B and B/20  $\leq$  C  $\leq$  B + 20; and (D) elec. conductive additives chosen from metals and alloys, elec. conductive carbon, iron phosphide, carbides, nitrides, and semiconductive oxides at  $5 \leq [D/(A + B + C + D)] \times 100 \leq 70$  in volume% based on the film-forming solids. A coating comprised Pheno Tohto YP-50 100, MIBK oxime-blocked IPDI 5, and dibutyltin dilaurate 0.2 part.

IT 133988-63-3P 184015-79-0P

RL: IME (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (anticorrosive weldable preprimed steel plates with excellent powdering resistance and coatability)

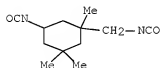
RN 133988-63-3 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (CA INDEX NAME)

CM 1

CRN 4098-71-9

CMF C12 H18 N2 O2



CM 2

CRN 106-89-8

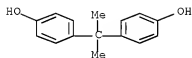
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



RN 184015-79-0 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane and Duranate TPA 100 (9CI) (CA INDEX NAME)

CM 1

CRN 134498-50-3

CMF Unspecified

CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 106-89-8

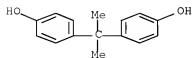
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



IT 12433-50-0, ZPC 49663-84-5, ZTO

RL: MOA (Modifier or additive use); USES (Uses)  
(anticorrosive weldable preprimed steel plates with excellent  
powdering resistance and coatability)

RN 12433-50-0 HCAPLUS

CN Potassium zinc chromate oxide (K<sub>2</sub>Zn<sub>4</sub>(CrO<sub>4</sub>)<sub>4</sub>O) (CA INDEX NAME)

Component	Ratio	Component Registry Number
=====	=====	=====
O	1	17778-80-2
CrO <sub>4</sub>	4	13907-45-4
Zn	4	7440-66-6
K	2	7440-09-7

RN 49663-84-5 HCAPLUS

CN Zinc chromate hydroxide (Zn<sub>5</sub>(CrO<sub>4</sub>)(OH)<sub>8</sub>) (CA INDEX NAME)

Component	Ratio	Component Registry Number
=====	=====	=====
HO	8	14280-30-9
CrO <sub>4</sub>	1	13907-45-4
Zn	5	7440-66-6

L137 ANSWER 18 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1997:618910 HCAPLUS Full-text

DN 127:279347

TI Aqueous epoxy resin compositions with long pot life for adhesives and coatings

IN Sawada, Hidenori; Tomita, Kenichi; Shimada, Shinichi; Hamamura, Toshihiro; Nakaya, Toshikazu; Nishida, Reijiro

PA Kansai Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

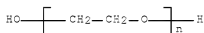
LA Japanese

FAN.CNT 1

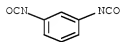
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
=====	=====	=====	=====	=====	=====
PI	JP 09241482	A	19970916	JP 1996-56512	19960313 <--
	JP 3720899	B2	20051130		
PRAI	JP 1996-56512		19960313	<--	

AB Title compns. comprise (I) aqueous epoxy hardeners containing (A) amine-modified epoxy resins prepared from polyethylene glycol [I; number-average mol. weight (Mn) 400-20,000], bisphenol-type epoxy resins, compds. having 1 active H (/mol.), compds. having ≥2 active NCO (/mol.), and active-H-containing amines, (B) active-H-containing hydrophobic polyamines, and (II) epoxy resin aqueous dispersions. Thus, 0.15 mol I (Mn 4,000) was treated with 0.15 mol propylene glycol monomethyl ether (II) 1 mol Epikote 828 at 100° and then with 0.3 mol TDI at 120° to NCO index ≤0.5, diluted with II to give an epoxy resin (E1), which was modified with 1.738 mol Pr<sub>2</sub>NH to give A, while 35 parts E1 was blended with 65 parts Epikote 828 and 100 parts H<sub>2</sub>O to give a dispersion (II-1). Then, 34 parts 30:70:100 (%) A/Epikure H 5S (polyamine)/H<sub>2</sub>O was blended with 66 parts II-1 to give title composition, which was applied on a soft steel plate and dried to give a coating film showing no corrosion nor blisters in salt spray test (JIS Z 2371), gel fraction ≥71 % in 24-h immersion in 20° THF, and excellent resistance in DuPont falling weight impact test.

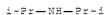
IT 196791-35-2P 196791-36-3P 196791-37-4P  
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (hardener; aqueous epoxy resin compns. containing amine-modified epoxy hardeners with long pot life)  
 RN 196791-35-2 HCAPLUS  
 CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane, 1,3-diisocyanatomethylbenzene,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and N-propyl-1-propanamine (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 25322-68-3  
 CMF (C2 H4 O)n H2 O  
 CCI PMS



CM 2  
 CRN 123-61-5  
 CMF C8 H4 N2 O2



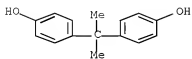
CM 3  
 CRN 108-18-9  
 CMF C6 H15 N



CM 4  
 CRN 106-89-8  
 CMF C3 H5 Cl O

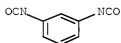


CM 5  
 CRN 80-05-7  
 CMF C15 H16 O2



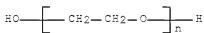
RN 196791-36-3 HCAPLUS  
 CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane, 1,3-diisocyanatomethylbenzene, ethanol,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and N-propyl-1-propanamine (9CI) (CA INDEX NAME)

CM 1  
 CRN 26471-62-5  
 CMF C9 H6 N2 O2  
 CCI IDS



D1-Me

CM 2  
 CRN 25322-68-3  
 CMF (C2 H4 O)<sub>n</sub> H2 O  
 CCI PMS



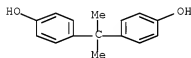
CM 3  
 CRN 142-84-7  
 CMF C6 H15 N



CM 4  
 CRN 106-89-8  
 CMF C3 H5 Cl O



CM 5  
 CRN 80-05-7  
 CMF C15 H16 O2

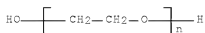


CM 6  
 CRN 64-17-5  
 CMF C2 H6 O



RN 196791-37-4 HCAPLUS  
 CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane, 1,3-diisocyanatomethylbenzene,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and 2,2'-iminobis[ethanol] (9CI) (CA INDEX NAME)

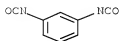
CM 1  
 CRN 25322-68-3  
 CMF (C2 H4 O)<sub>n</sub> H2 O  
 CCI PMS



CM 2



CRN 123-61-5  
CMF C8 H4 N2 O2



CM 3

CRN 111-42-2  
CMF C4 H11 N O2



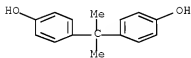
CM 4

CRN 106-89-8  
CMF C3 H5 Cl O



CM 5

CRN 80-05-7  
CMF C15 H16 O2



L137 ANSWER 19 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1997:618530 HCAPLUS [Full-text](#)

DN 127:263978

TI Epoxy-melamine-coated cured laminate films, metal plates laminated with them, and metal containers molded from the plate

IN Kuze, Katsuro; Igushi, Hidemoto; Ota, Saburo; Nagano, Hiromu; Isaka, Tsutomu

PA Toyobo Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

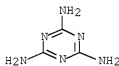
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09239938	A	19970916	JP 1996-53561	19960311 <--
	JP 3845892	B2	20061115		
PRAI	JP 1996-53561		19960311	<--	
AB	<p>The films comprise thermoplastic film substrates laminated with cured heat-resistant layers containing cured reaction products of bisphenol A skeleton-having epoxy resins and melamines to show the following formulas by surface IR absorption anal.: <math>0.3 \leq \text{Pt/Pb} \leq 3.0</math>; <math>\text{Pe/Pt} \leq 0.25</math> (Pt = absorbance of triazine ring peak at <math>\approx 1550 \text{ cm}^{-1}</math>, Pb = absorbance of bisphenol A skeleton peak at <math>\approx 830 \text{ cm}^{-1}</math>, Pe = absorbance of epoxy ring peak at <math>\approx 910 \text{ cm}^{-1}</math>). The metal plates are laminated with the above films. The metal containers, useful for beverages, beers, and canned foods, are obtained by molding the above plates into cans to face the cured heat-resistant layers outside. Thus, a coating containing bisphenol A epoxy resin 50, polyester 30, hexamethoxymethylolmelamine 20, p-MeC6H4SO3H 0.5, silicones 1, polyethylene wax 0.2, and fluoropolymer 0.2 part was applied on a film from 96% poly(ethylene terephthalate) (I) and 4% I-polytetramethylene glycol block copolymer, dried at <math>100^\circ</math>, and cured at <math>175^\circ</math> to give a laminate film with Pt/Pb 1.2, Pe/Pt 0.27, good abrasion resistance, lubricity, which was corona discharge-treated and printed on the other side, and laminated on a steel plate via an adhesive layer at the printed face to give a laminated plate. The plate was molded into cans with good appearance, and abrasion, heat, and moisture resistances.</p>				
IT	<p>85023-89-8P, Bisphenol A-epichlorohydrin-formaldehyde-melamine copolymer            RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)            (cured epoxy-melamine-coated laminate films, metal plates laminated with them, and metal containers molded from the plate)</p>				
RN	85023-89-8 HCAPLUS				
CN	<p>Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)</p>				

CM 1

CRN 108-78-1

CMF C3 H6 N6



CM 2

CRN 106-89-8

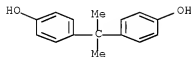
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



CM 4

CRN 50-00-0

CMF C H2 O



IT 12597-69-2, Steel, uses  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)  
 (cured epoxy-melamine-coated laminate films, metal plates laminated  
 with them, and metal containers molded from the plate)  
 RN 12597-69-2 HCAPLUS  
 CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L137 ANSWER 20 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1997:618508 HCAPLUS [Full-text](#)

DN 127:279328

TI Thermoplastic laminate films having cured heat-resistant layers, metal  
 plates laminated with them, and metal containers molded from the plates  
 IN Kuze, Katsuro; Shimizu, Hideki; Ota, Saburo; Nagano, Hiromu; Isaka,  
 Tsutomu

PA Toyobo Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09239916	A	19970916	JP 1996-56431	19960313 <--
	JP 3092507	B2	20000925		
	JP 11179848	A	19990706	JP 1998-281486	19981002 <--

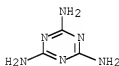
JP 3758380 B2 20060322  
 PRAI JP 1996-56431 A3 19960313 <--  
 AB The films comprise thermoplastic film substrates laminated with cured heat-resistant layers such that the product (X) of abrasion-resistance index (AI) and static friction coefficient (SF) is  $\leq 0.13$ . Metal plates are laminated with these films. The metal containers, useful for beverages, beer, and canned foods, are obtained by molding the plates into cans so that the cured heat-resistant layers face the outside. Thus, a coating containing bisphenol A epoxy resin 55, polyester 30, hexakis(methoxymethyl)melamine 15, p-MeC6H4SO3H 0.7, silicones 1, polyethylene wax 0.2, and fluoropolymer 0.2 part was applied at 1 g/m2 on a 12- $\mu$ m biaxially stretched film from 96% poly(ethylene terephthalate) (I) and 4% I-polytetramethylene glycol block copolymer, dried at 95°, and cured at 180° to give a laminated film with AI 0.1%, SF 0.11, and X 0.011, and good transparency and lubricity, which was corona discharge-treated and printed on the other side, and laminated on a steel plate via an adhesive layer at the printed face to give a laminated plate. The plate was molded into cans with good appearance, and abrasion, heat, and moisture resistance.

IT 85023-89-8P, Bisphenol A-epichlorohydrin-formaldehyde-melamine copolymer  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (cured epoxy-melamine-coated laminate films, metal plates laminated with them, and metal containers molded from the plate)

RN 85023-89-8 HCAPLUS  
 CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)

CM 1

CRN 108-78-1  
 CMF C3 H6 N6



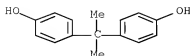
CM 2

CRN 106-89-8  
 CMF C3 H5 Cl O



CM 3

CRN 80-05-7  
CMF C15 H16 O2



CM 4

CRN 50-00-0  
CMF C H2 O

H<sub>2</sub>C=O

IT 12597-69-2, Steel, uses  
RL: PRP (Properties); TEM (Technical or engineered material use); USES  
(Uses)  
(cured epoxy-melamine-coated laminate films, metal plates laminated  
with them, and metal containers molded from the plate)  
RN 12597-69-2 HCAPLUS  
CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L137 ANSWER 21 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1997:207091 HCAPLUS [Full-text](#)

DN 126:200744

TI Fluororesin-based coating compositions and weather-resistant stainless  
steel plates coated with them

IN Ikishima, Kenji; Imai, Kazuhito; Yoshida, Kiwamu

PA Sumitomo Metal Industries, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09012967	A	19970114	JP 1995-162312	19950628 <--
PRAI	JP 1995-162312		19950628	<--	

AB Title compns. comprise 5-20% epoxy resins, 1-10% crosslinking agents, 20-80% acrylic resins, 20-80% fluororesins, and optionally 0.05-5 phr crosslinking catalysts and 0.01-5 phr silane coupling agents. Coated stainless steel plates useful for building materials are obtained by coating undercoated stainless steel plates with the compns. Thus, a composition comprising Epilcon 7050 10, Super-Beckamine J 820 2, Hipet HPS (acrylic resin) 20, Kynar 500 68, p-toluenesulfonic acid 0.05, and Tipaque R 820 100 parts was applied on a chromated SUS 304 plate, baked, and cooled to form a coating layer showing cross-cut adhesion 100/100 after 24 h in boiling water, pencil hardness H, gloss retention 95% and discoloration resistance after 1000-h weathering test, and good bending resistance.

IT 85023-89-8P, Bisphenol A-epichlorohydrin-formaldehyde-2,4,6-triamino-s-triazine copolymer  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (weather-resistant coatings containing acrylic resins, epoxy resins and fluororesins for stainless steel)

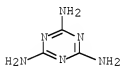
RN 85023-89-8 HCAPLUS

CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)

CM 1

CRN 108-78-1

CMF C3 H6 N6



CM 2

CRN 106-89-8

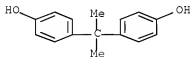
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



CM 4

CRN 50-00-0

CMF C H2 O

H<sub>2</sub>C=O

IT 12597-68-1, Stainless steel, miscellaneous  
 RL: MSC (Miscellaneous)  
 (weather-resistant coatings containing acrylic resins, epoxy resins and  
 fluororesins for stainless steel)  
 RN 12597-68-1 HCAPLUS  
 CN Stainless steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L137 ANSWER 22 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1997:107263 HCAPLUS Full-text

DN 126:119149

TI Anticorrosive and press-moldable organic composite-coated steel  
 panels

IN Urata, Kazuya; Yoshimi, Naoto; Kubota, Takahiro; Yamashita, Masaaki; Sato,  
 Kentaro; Haruta, Yasuhiko

PA Nippon Kokan Kk, Japan; Kansai Paint Co Ltd

SO Jpn. Kokai Tokkyo Koho, 55 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08318218	A	19961203	JP 1996-60130	19960222 <--
	JP 3228675	B2	20011112		
PRAI	JP 1995-86313	A	19950317	<--	

AB Title panels are prepared by forming chromate films on Zn (alloy)-plated steel panels (A) to a Cr thickness of 5-200 mg/m<sup>2</sup> and covering with organic comps. containing 3-50% anticorrosive agents and 30-80% polymers consisting of 100 parts OH- or COOH-containing base polymers (excluding epoxy resins end modified by basic N and ≥2 primary OH groups) and 5-80 parts polyisocyanates to a thickness of between 3.0 μm and 0.1 + (Ra + 2) (Ra = average roughness of the A panels). A a Ni/Zn alloy-plated steel panel with a Ra 1.0 μm was chromated to a 50-μm Cr, covered with a composition containing a Sn catalyst, 100 parts Epikote 1007, 25 parts Duranate MF-B 80M (blocked hexafunctional derivative of HMDI), polyethylene wax, BaCrO<sub>4</sub>, and SrCrO<sub>4</sub> to a 0.8-μm thickness, and baked at 140° to form a plate showing good coating adhesion, anticorrosion, lubricity, processability, and powdering resistance.

IT 185914-55-0P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM  
 (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (anticorrosive filler-containing resin coatings on chromated and zinc  
 alloy-plated steel)

RN 185914-55-0 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane,  
 1,3-diisocyanatomethylbenzene, Duranate TPA 100 and α-  
 (oxiranylmethyl)-ω-(oxiranylmethoxy)poly(oxy-1,2-ethanediyl) (9CI)  
 (CA INDEX NAME)

CM 1

CRN 134498-50-3

CMF Unspecified

CCI PMS, MAN

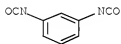
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



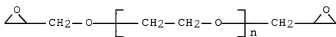
D1-Me

CM 3

CRN 26403-72-5

CMF (C2 H4 O)<sub>n</sub> C6 H10 O3

CCI PMS



CM 4

CRN 106-89-8

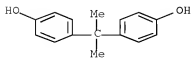
CMF C3 H5 Cl O



CM 5

CRN 80-05-7

CMF C15 H16 O2





IT 12597-69-2, Steel, miscellaneous  
 RL: MSC (Miscellaneous)  
 (anticorrosive filler-containing resin coatings on chromated and zinc  
 alloy-plated steel)  
 RN 12597-69-2 HCAPLUS  
 CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 52360-06-2 68493-54-9 118889-49-9  
 119412-76-9 152259-57-9  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (anticorrosive filler-containing resin coatings on chromated and zinc  
 alloy-plated steel)  
 RN 52360-06-2 HCAPLUS  
 CN Zinc alloy, base, Zn 88, Ni 12 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	88	7440-66-6
Ni	12	7440-02-0

RN 68493-54-9 HCAPLUS  
 CN Aluminum alloy, base, Al 55, Zn 43, Si 1.6 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	55	7429-90-5
Zn	43	7440-66-6
Si	1.6	7440-21-3

RN 118889-49-9 HCAPLUS  
 CN Zinc alloy, base, Zn 94, Al 5, Mo 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	94	7440-66-6
Al	5	7429-90-5
Mo	0.5	7439-98-7

RN 119412-76-9 HCAPLUS  
 CN Zinc alloy, base, Zn 88, Cr 12 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	88	7440-66-6
Cr	12	7440-47-3

RN 152259-57-9 HCAPLUS  
 CN Zinc alloy, base, Zn 86, Cr 12, Ni 2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	86	7440-66-6
Cr	12	7440-47-3
Ni	2	7440-02-0

L137 ANSWER 23 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1997:60943 HCAPLUS Full-text

DN 126:76218

TI Pre-primed steel panels with good adhesion, anticorrosion,  
powdering resistance, and coatability

IN Yoshimi, Naoto; Urata, Kazuya; Kubota, Takahiro; Yamashita, Masaaki

PA Nippon Kokan Kk, Japan

SO Jpn. Kokai Tokyo Koho, 36 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08276154	A	19961022	JP 1995-103149	19950404 <--
	JP 3304235	B2	20020722		
PRAI	JP 1995-103149		19950404	<--	

AB Title panels are prepared by coating chromated (1-500 mg/m<sup>2</sup> Cr) Zn (alloy)-  
plated steel panels with (modified)epoxy resins and 0.1-30 phr solid  
lubricants to a thickness of 1.0-30  $\mu$ m. A chromated galvanized steel panel  
was coated with a composition containing anticorrosive additives, Pheno Tohto  
YP 50-6:1 IPDI/sorbitol adduct copolymer, silica, and Luvax 115 lubricant and  
baked to form a title panel.

IT 11149-84-1

RL: MSC (Miscellaneous)

(0.5% Mo-containing, platings; solid lubricant-containing epoxy resin

primers

on chromated and zinc alloy-plated steel for  
corrosion/powdering resistance and coatability)

RN 11149-84-1 HCAPLUS

CN Aluminum alloy, nonbase, Al,Zn (CA INDEX NAME)

Component	Component Registry Number
Al	7429-90-5
Zn	7440-66-6

=====+=====

Al	7429-90-5
Zn	7440-66-6

IT 37346-11-5 52975-39-0 54134-51-9

74750-92-8

RL: MSC (Miscellaneous)

(platings; solid lubricant-containing epoxy resin primers on chromated and  
zinc alloy-plated steel for corrosion/powdering resistance  
and coatability)

RN 37346-11-5 HCAPLUS

CN Nickel alloy, nonbase, Ni,Zn (CA INDEX NAME)

Component	Component Registry Number
Ni	7440-02-0
Zn	7440-66-6

=====+=====

Ni	7440-02-0
Zn	7440-66-6

RN 52975-39-0 HCAPLUS

CN Manganese alloy, nonbase, Mn,Zn (CA INDEX NAME)

Component	Component Registry Number
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=====+=====
Mn      7439-96-5
Zn      7440-66-6

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RN 54134-51-9 HCAPLUS  
 CN Chromium alloy, nonbase, Cr,Zn (CA INDEX NAME)

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Component      Component
                Registry Number
=====+=====
Cr      7440-47-3
Zn      7440-66-6

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RN 74750-92-8 HCAPLUS  
 CN Chromium alloy, nonbase, Cr,Ni,Zn (9CI) (CA INDEX NAME)

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Component      Component
                Registry Number
=====+=====
Cr      7440-47-3
Ni      7440-02-0
Zn      7440-66-6

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IT 184015-79-0P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM  
 (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (solid lubricant-containing epoxy resin primers on chromated and zinc  
 alloy-plated steel for corrosion/powdering resistance and  
 coatability)  
 RN 184015-79-0 HCAPLUS  
 CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane  
 and Duranate TPA 100 (9CI) (CA INDEX NAME)

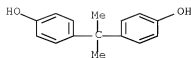
CM 1  
  
 CRN 134498-50-3  
 CMF Unspecified  
 CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2  
  
 CRN 106-89-8  
 CMF C3 H5 Cl O



CM 3  
  
 CRN 80-05-7  
 CMF C15 H16 O2



L137 ANSWER 24 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1996:751529 HCAPLUS Full-text

DN 126:20196

TI Corrosion-resistant steel coated with organic composites and useful for automobile bodies

IN Yoshimi, Naoto; Kubota, Takahiro; Yamashita, Masaaki

PA Nippon Kokan Kk, Japan

SO Jpn. Kokai Tokkyo Koho, 19 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08252527	A	19961001	JP 1995-84740	19950316 <--
	JP 3259584	B2	20020225		
PRAI	JP 1995-84740		19950316	<--	
AB	Zinc-plated steel is chromated 5-200 mg/m <sup>2</sup> , coated with solvents containing (A) bisphenol epoxy resins having number-average-mol. weight 300-100,000 100, (B) polyisocyanate crosslinking agents having ≥3 NCO groups/mol. 5-80, (C) a polyethylene wax 0.1-10 parts, and (D) rustproofing additives at (A + B)/D 90/10-40/60, and dried to coating thickness 0.2-3 μm. Thus, steel plated with 12:88 Ni-Zn was chromated and coated with cyclohexanone containing Epikote 1007, a reaction product of IPDI with Me Et ketoxime and sorbitol, Aerosil R811, Ba chromate, and a polyethylene wax.				
IT	52360-06-2	88120-60-9	97365-06-5		
	118889-49-9	152259-57-9			
	RL: TEM (Technical or engineered material use); USES (Uses) (plating; zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)				
RN	52360-06-2	HCAPLUS			
CN	Zinc alloy, base, Zn 88, Ni 12 (CA INDEX NAME)				

Component	Component Percent	Component Registry Number
Zn	88	7440-66-6
Ni	12	7440-02-0

RN 88120-60-9 HCAPLUS

CN Zinc alloy, base, Zn 85, Fe 15 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	85	7440-66-6
Fe	15	7439-89-6

RN 97365-06-5 HCAPLUS

CN Manganese alloy, base, Mn 60, Zn 40 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Mn	60	7439-96-5
Zn	40	7440-66-6

RN 118889-49-9 HCAPLUS

CN Zinc alloy, base, Zn 94, Al 5, Mo 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	94	7440-66-6
Al	5	7429-90-5
Mo	0.5	7439-98-7

RN 152259-57-9 HCAPLUS

CN Zinc alloy, base, Zn 86, Cr 12, Ni 2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	86	7440-66-6
Cr	12	7440-47-3
Ni	2	7440-02-0

IT 37224-57-0, Zinc potassium chromate

RL: MOA (Modifier or additive use); USES (Uses)

(rustproofing agents; zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)

RN 37224-57-0 HCAPLUS

CN Chromium potassium zinc oxide (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zn	x	7440-66-6
Cr	x	7440-47-3
K	x	7440-09-7

IT 184015-79-0P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(zinc-plated chromated steel coated with epoxy resins containing rustproofing agents and polyethylene wax for automobile bodies)

RN 184015-79-0 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane and Duranate TPA 100 (9CI) (CA INDEX NAME)

CM 1

CRN 134498-50-3

CMF Unspecified

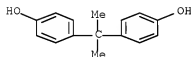
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2  
 CRN 106-89-8  
 CMF C3 H5 Cl O



CM 3  
 CRN 80-05-7  
 CMF C15 H16 O2



IT 119412-76-9  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (zinc-plated chromated steel coated with epoxy resins containing  
 rustproofing agents and polyethylene wax for automobile bodies)  
 RN 119412-76-9 HCAPLUS  
 CN Zinc alloy, base, Zn 88,Cr 12 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Zn	88	7440-66-6
Cr	12	7440-47-3

L137 ANSWER 25 OF 38 HCAPLUS COPYRIGHT 2007 ACS on SIN  
 AN 1995:926311 HCAPLUS Full-text  
 DN 124:58348  
 TI Plastic-laminated metal sheets and their manufacture  
 IN Kojima, Shunji; Kobayashi, Seishichi  
 PA Kishimoto Akira, Japan  
 SO Jpn. Kokai Tokkyo Koho, 11 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07205370	A	19950808	JP 1994-625	19940107 <--
	JP 2903989	B2	19990614		
PRAI	JP 1994-625		19940107	<--	
AB	The title sheets, with good adhesion, processability, and corrosion resistance, useful for seamless cans, etc., are prepared by continuously laminating 70-99:1-30 mixts. of bisphenol-type epoxy resins with weight-				

average mol. weight >70,000 (e.g., bisphenol A-Epikote 828 copolymer) and methylol-containing hardeners (e.g., Tamarol 903, Cymel 303, phenolic resins) on metal sheets (e.g., chromate-treated steel sheet).

IT 12597-69-2, Steel, uses

RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)

(chromated sheets; plastic-laminated metal sheets and their manufacture)

RN 12597-69-2 HCAPLUS

CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 85023-89-8

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)

(plastic-laminated metal sheets and their manufacture)

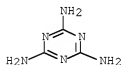
RN 85023-89-8 HCAPLUS

CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)

CM 1

CRN 108-78-1

CMF C3 H6 N6



CM 2

CRN 106-89-8

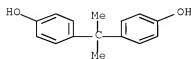
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



CM 4

CRN 50-00-0

CMF C H2 O

H<sub>2</sub>C=O

L137 ANSWER 26 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1994:703141 HCAPLUS Full-text

DN 121:303141

TI Epoxy resin compositions for coatings for metals

IN Hosono, Takayoshi; Takeda, Yasuyuki

PA Toto Kasei KK, Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	JP 06172490	A	19940621	JP 1992-329654	19921209 <--
PRAI	JP 1992-329654		19921209	<--	

AB The title comps. contain curing agents and solid epoxy resins (number-average mol. weight 900-10,000) prepared by reacting phenols with liquid epoxy resins containing dispersed incompatible acrylic rubber particles ( $\leq 2 \mu\text{m}$ ; glass temperature below room temperature). A liquid epoxy resin (YD 128) containing dispersed particles of 25:67:2:6 acrylonitrile-butadiene-divinylbenzene-methacrylic acid copolymer was reacted with bisphenol A to give a solid epoxy resin which was dissolved in a mixture of Et 3-ethoxypropionate, iso-BuCOMe, and cyclohexanone, mixed with Super-Beckamine J 820-60 and p-MeC<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>H, and coated on steel to give flexible coatings showing cross-cut adhesion 10/10, pencil hardness 3H, and good resistance to boiling water.

IT 12597-69-2, Steel, miscellaneous

RL: MSC (Miscellaneous)

(epoxy resins containing acrylic rubber particles for water-resistant flexible coatings on)

RN 12597-69-2 HCAPLUS

CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 85023-89-8

RL: USES (Uses)

(in metal coatings with flexibility and resistance to boiling water)

RN 85023-89-8 HCAPLUS

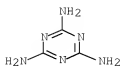
CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)

CM 1

CRN 108-78-1

CMF C3 H6 N6





CM 2

CRN 106-89-8

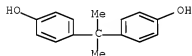
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



CM 4

CRN 50-00-0

CMF C H2 O



L137 ANSWER 27 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1993:519657 HCAPLUS Full-text

DN 119:119657

TI Metal surface treatment agents and manufacture thereof

IN Yoshimi, Michinari; Tawara, Kunio; Okuyama, Toshio; Ishizaki, Kenichi; Kato, Hideki

PA Toa Gosei Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.

KIND DATE

APPLICATION NO.

DATE

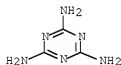
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PI    JP 05001391      A      19930108      JP 1991-177528      19910621 <--
PRAI  JP 1991-177528      19910621 <--
AB    The title comps. providing lasting scratch and corrosion prevention and good
      adhesion as undercoatings contain OH group-containing resins and silica by
      sol-gel process. A composition showing good performance on chromate-treated
      galvanized steel comprised 1:1 xylene-cyclohexanone 490, S-Lec BLM poly(vinyl
      butyral) 100, sol-gel silica 100, and U-Van 22R 40 parts.
IT    85023-89-8
      RL: TEM (Technical or engineered material use); USES (Uses)
          (coatings, containing sol-gel silica, anticorrosive, scratch-resistant, for
          steel)
RN    85023-89-8 HCAPLUS
CN    Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-
      methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX
      NAME)

      CM    1

      CRN   108-78-1
      CMF   C3 H6 N6

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      CM    2

      CRN   106-89-8
      CMF   C3 H5 Cl O

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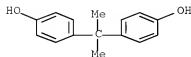


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      CM    3

      CRN   80-05-7
      CMF   C15 H16 O2

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      CM    4

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CRN 50-00-0  
CMF C H2 O

H2C=O

L137 ANSWER 28 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1990:425649 HCAPLUS Full-text

DN 113:25649

TI Anticorrosive metallic coatings containing epoxy resins and/or vinyl chloride polymers

IN Savin, Ronald R.

PA USA

SO U.S., 9 pp. Cont.-in-part of U.S. Ser. No. 73,981, abandoned.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4891394	A	19900102	US 1988-182529	19880418 <--
	FR 2602239	A1	19880205	FR 1986-11238	19860730 <--
	FR 2602239	B1	19881007		
PRAI	FR 1986-11238	A	19860730	<--	
	US 1987-73981	B2	19870716	<--	

AB The title comps. comprise 10-20% epoxy resins (epoxy equivalent 250-2500) and/or vinyl chloride polymers and polyisocyanates or melamine resins, 3-60% powdered Zn, 10-25% elec. conductivity control agents containing crystalline SiO2 [oil adsorption (ASTM D 281-84) ≤20]; 2-3% rheol. control agents, and ≤25% solvents. Thus, coating steel with 2.5-5 mil a mixture of Epon 1001F (epoxy resin) 11.20, Zn dust 44.18, novaculite (conductivity control agent) mine resin 8.26, and organic solvents 19.20% and baking at 300-350° F for 20 min gave a coating with corrosion resistance 3000 h and good adhesion, flexibility, and oil resistance (1 mo).

IT 85023-89-8

RL: USES (Uses)

(anticorrosive coatings, containing zinc dust)

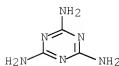
RN 85023-89-8 HCAPLUS

CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)

CM 1

CRN 108-78-1

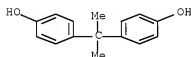
CMF C3 H6 N6



CM 2  
 CRN 106-89-8  
 CMF C3 H5 Cl O



CM 3  
 CRN 80-05-7  
 CMF C15 H16 O2



CM 4  
 CRN 50-00-0  
 CMF C H2 O



L137 ANSWER 29 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1989:214800 HCAPLUS Full-text

DN 110:214800

TI High-speed ion-implantation process for forming patterned coatings on sheet metal

IN Nomura, Tadashige; Osada, Koichi

PA Nippon Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

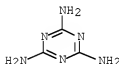
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63256167	A	19881024	JP 1987-89600	19870410 <--
PRAI	JP 1987-89600		19870410	<--	

AB Durable coatings are formed at high speeds by coating sheet metal with an insulating layer having resistivity ( $\rho$ )  $\geq 10^9 \Omega\text{-cm}$ , using a corona discharge or elec. conductive brushes to apply electrostatic charge to the coating, contacting parts of the coating with grounded electrodes to selectively remove

the charge, then contacting the coating with a powdered developer (which may be dispersed in a nonconducting solvent with low dielec. constant), and baking. Thus, steel sheets 0.5 mm thick were coated with a solution of Epikote 1004 and Cymel 303 in MIBK, and dried to form a 30- $\mu$ m coating having  $\rho$  1014  $\Omega$ -cm, which was passed at 200 mm/s through a Corotron operating at 6 kV to pos. charge the surface, then contacted with grounded electrodes 5 mm wide to form a striped pattern of charged and uncharged areas, coated with Powdax P 60 White (polyester powder coating) charged at -20 kV, sprayed with compressed air to dislodge the powder from the uncharged stripes, and baked 90 s at 230°. The resulting striped coating showed good adhesion and salt spray corrosion resistance.

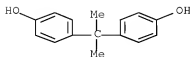
IT 95023-89-8, Bisphenol A-epichlorohydrin-formaldehyde-melamine  
copolymer  
RL: USES (Uses)  
(primers, for electrostatically applied patterned coil coatings on  
sheet metal)  
RN 85023-89-8 HCAPLUS  
CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-  
methylenelethylene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX  
NAME)  
CM 1  
CRN 108-78-1  
CMF C3 H6 N6



CM 2  
CRN 106-89-8  
CMF C3 H5 Cl O



CM 3  
CRN 80-05-7  
CMF C15 H16 O2



CM 4

CRN 50-00-0

CMF C H2 O

H<sub>2</sub>C=O

L137 ANSWER 30 OF 38 HCAPLUS COPYRIGHT 2007 ACS on SIN

AN 1989:77642 HCAPLUS Full-text

DN 110:77642

TI Emulsion type water paint, process for its production, and process for applying same

IN Kojima, Shunji; Watanabe, Yoshiki; Goto, Hiroaki; Moriga, Toshinori

PA Toyo Seikan Kaisha, Ltd., Japan

SO PCT Int. Appl., 63 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8805455	A1	19880728	WO 1988-JP64	19880127 <--
	W: DK, SE, US				
	JP 63183968	A	19880729	JP 1987-15146	19870127 <--
	JP 07026041	B	19950322		
	JP 63183969	A	19880729	JP 1987-15147	19870127 <--
	JP 06045769	B	19940615		
	JP 63236576	A	19881003	JP 1987-69176	19870325 <--
	JP 03017551	B	19910308		
	JP 63275675	A	19881114	JP 1987-109727	19870507 <--
	JP 06072217	B	19940914		
	SE 8803417	A	19880927	SE 1988-3417	19880927 <--
	DK 8805365	A	19881125	DK 1988-5365	19880927 <--
	US 5087645	A	19920211	US 1988-272838	19881117 <--
	US 5068266	A	19911126	US 1989-426351	19891025 <--
	US 5110847	A	19920505	US 1990-632681	19901224 <--
PRAI	JP 1987-15146	A	19870127	<--	
	JP 1987-15147	A	19870127	<--	
	JP 1987-69176	A	19870325	<--	
	JP 1987-109727	A	19870507	<--	
	WO 1988-JP64	W	19880127	<--	
	US 1988-272838	A2	19880927	<--	
	US 1989-426351	A3	19891025	<--	

AB The title paint showing good storability and good performance on metal cans contain film-forming thermosetting resin component comprising epoxy resin and a hardener resin in O/W emulsion form and acrylic polymer dispersant containing carboxy groups in ammonium or amine salt form to provide acid value (based on coating resin) 2-30. A solution of 800 parts bisphenol A epoxy resin (number-average mol. weight 3750, epoxy equivalent 3000) in 800 parts Bu Cellosolve was mixed with a solution of 200 parts bisphenol A-p-cresol-HCHO copolymer (number-average mol. weight 650) in 1:1:1 xylene-MIBK-cyclohexanone, and 160 parts of the mixed solution was mixed with 20 parts 50%-solids 200:200:400:200 Et acrylate-Me methacrylate-methacrylic acid-styrene copolymer

(weight-average mol. weight 120,000, acid value 124) solution in Et Cellosolve, treated slowly with a solution of 2 equiv (based on the carboxy group in the acrylic polymer) Me<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>OH in 250 parts water, conductivity in vacuo with removal of 100 parts water and 120 parts organic solvents to give a 40%-solids O/W emulsion storable without skin formation and giving retortable smooth baked coatings on tin-free steel.

IT 85023-89-8

RL: TEM (Technical or engineered material use); USES (Uses)

(coatings, water-thinned, anticorrosive, retortable, for cans)

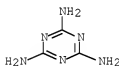
RN 85023-89-8 HCAPLUS

CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)

CM 1

CRN 108-78-1

CMF C3 H6 N6



CM 2

CRN 106-89-8

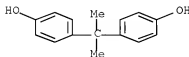
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



CM 4

CRN 50-00-0

CMF C H2 O

H2C=O

L137 ANSWER 31 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1989:59624 HCAPLUS Full-text

DN 110:59624

TI Outdoor coatings based on epoxy resins and silicon compounds

IN Herzig, Christian; Deubzer, Bernward; Esterbauer, Josef; Frey, Volker

PA Wacker-Chemie G.m.b.H., Fed. Rep. Ger.

SO Ger. Offen., 8 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3709045	A1	19880929	DE 1987-3709045	19870319 <--
	US 4857608	A	19890815	US 1988-166950	19880311 <--
	EP 283009	A2	19880921	EP 1988-104253	19880317 <--
	EP 283009	A3	19900124		
	EP 283009	B1	19940622		

R: BE, CH, DE, FR, GB, IT, LI

PRAI DE 1987-3709045 A 19870319 &lt;--

AB Organosiloxanes with repeating units having the general formula  $\text{YArBSi(OR)}_1\text{cO}_4\text{-a-b-c}$  (R = C1-8 hydrocarbyl, R1 = C1-4 alkyl, Y = basic N-containing monovalent Si-bonded organic group, a = 0-1, b = 0-3, c = 0-3) are useful as crosslinkers for epoxy resin outdoor coatings. Thus, 368 parts 75% xylene solution of Me H siloxane-Ph H siloxane copolymer having 3% SiOH groups, Si-bonded organic group-Si atom ratio 1.46:1, and Si-bonded Ph-Me ratio 37:63 was mixed with 180 parts  $\beta$ -aminoethyl  $\gamma$ -aminopropyltrimethoxysilane in 32 parts xylene 3 h at 110° and then at 150°/1 hPa to remove vaporizable components and give a product which provided a 75% xylene solution with viscosity 50 mL/s at 250°. This solution was mixed (31.1 parts) with bisphenol A-epichlorohydrin copolymer (mol. weight 900) 48.5, MEK 15, MIBK 15, ethylene glycol mono-Et ether 7, xylene 30, 10% melamine resin-xylene solution 4.5, and TiO2 72.3 parts to give a composition with DIN number 4-cup viscosity 28.2 s after aging 24 h, that was applied on steel and dried 3 days to give a coating with MEK double-rub value 170 and pencil hardness 6H, compared with 11 and F, resp., for similar coatings prepared without the aminosiloxane.

IT 85023-89-8, Bisphenol A-epichlorohydrin-formaldehyde-melamine copolymer

RL: TEM (Technical or engineered material use); USES (Uses)  
(coatings, outdoor, aminoalkylated siloxane crosslinkers for)

RN 85023-89-8 HCAPLUS

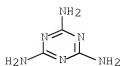
CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)

CM 1

CRN 108-78-1

CMF C3 H6 N6





CM 2

CRN 106-89-8

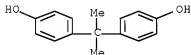
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



CM 4

CRN 50-00-0

CMF C H2 O



L137 ANSWER 32 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1989:59623 HCAPLUS Full-text

DN 110:59623

TI Solvent-based anticorrosive undercoating compositions

IN Kanai, Hiroshi; Oka, Joji; Ueno, Nagaharu; Kimura, Taiichi

PA Nippon Steel Corp., Japan; Nippon Steel Chemical Co., Ltd.

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

PI JP 63170472 A 19880714 JP 1987-1011 19870108 <--  
 JP 07091505 B 19951004  
 PRAI JP 1987-1011 19870108 <--

AB The title compns., giving coatings with good adhesion, formability, and topcoatability, contain 60-90% epoxy resin (number-average mol. weight 900-15,000) and 10-40% SiO<sub>2</sub> (primary particle diameter 1-10 μm, sp. surface >270 m<sup>2</sup>/g, surface SiOH concentration >0.25 mmol/100 m<sup>2</sup>). A mixture of epoxy resin (number-average mol. weight 3800, OH equivalent >90; prepared by heating 150 parts Adeka EP5700 with 8 parts diethanolamine in 100 parts xylene and 50 parts cyclohexanone at 120° for 4 h) 72, Melan-2000 13, and Aerosil-300 15 parts was thinned to 20% solids with 1:1 xylene-cyclohexanone, coated on primed steel, and baked at 200° for 30 s to give a 1-μ coating with good receptivity for cationic electrophoretic coatings.

IT 85023-89-8, Adeka EP5900-formaldehyde-melamine copolymer  
 RL: USES (Uses)  
 (anticorrosive primers, containing silica and melamine resins, with good coatability)

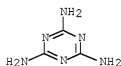
RN 85023-89-8 HCAPLUS

CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)

CM 1

CRN 108-78-1

CMF C3 H6 N6



CM 2

CRN 106-89-8

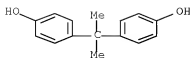
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



CM 4  
CRN 50-00-0  
CMF C H2 O

H<sub>2</sub>C=O

L137 ANSWER 33 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1988:551594 HCAPLUS [Full-text](#)

DN 109:151594

TI Polyester-containing high-molecular-weight epoxy resin-precoated sheet steel

IN Ogishi, Hideo; Kobayashi, Shigeru; Ichida, Toshiro

PA Kawasaki Steel Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63097267	A	19880427	JP 1986-241107	19861009 <--
PRAI	JP 1986-241107		19861009	<--	

AB The title sheets with good formability and corrosion resistance at bends are manufactured by applying amino- or mercaptosilane couplers to chemical conversion-treated steel, then applying a primer containing (A) linear polyester having number-average mol. weight (Mn) ≥5000, (B) epoxy resins having Mn ≥800, epoxy equivalent weight ≤2500, and OH content ≥3%, and (C) melamine resins, urea resins, blocked isocyanates, and/or phenolic resins at A:B = 50-95:50-5 and (A + B):C = 60-95:40-5. TP 217 polyester (Mn 16,000) 90, Epikote 1001 (Mn 900, epoxy equivalent weight 500, OH content 4%) 10, Cymel 303 11.1, TiO<sub>2</sub> 56, SrCrO<sub>4</sub> 56, and thinners 222 parts were ball-milled to give a primer. Phosphated sheet steel was dipped in 5% aqueous SH6020 coupler, dried, coated with a 5-μm layer of the primer, baked, coated with a 20-μm polyester topcoat, and baked to give a coating showing no cracks on bends and good salt water spray resistance.

IT 12597-69-2

RL: MSC (Miscellaneous)

(coating materials, anticorrosive, coil, high-mol.-weight epoxy resin-polyester blends, for silane-pretreated sheet steel)

RN 12597-69-2 HCAPLUS

CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 84623-89-6, Bisphenol A-epichlorohydrin-formaldehyde-melamine copolymer

RL: USES (Uses)

(coil coatings, containing high-mol.-weight polyesters, for silane-pretreated

steel)

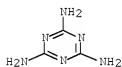
RN 85023-89-8 HCAPLUS

CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)

CM 1

CRN 108-78-1

CMF C3 H6 N6



CM 2

CRN 106-89-8

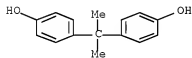
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



CM 4

CRN 50-00-0

CMF C H2 O



L137 ANSWER 34 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1988:475373 HCAPLUS Full-text

DN 109:75373

TI Anticorrosive formable epoxy resin coatings

IN Colon, Ismael; Smith, Donald Foss, Jr.

PA Union Carbide Corp., USA

SO Eur. Pat. Appl., 13 pp.

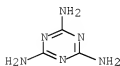
CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 262613	A2	19880406	EP 1987-114048	19870925 <--
	EP 262613	A3	19891129		
	R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
	AU 8778869	A	19880331	AU 1987-78869	19870923 <--
	DK 8705042	A	19880327	DK 1987-5042	19870925 <--
	NO 8704030	A	19880328	NO 1987-4030	19870925 <--
	BR 8704943	A	19880517	BR 1987-4943	19870925 <--
	JP 63159478	A	19880702	JP 1987-239126	19870925 <--
PRAI	US 1986-911815	A	19860926	<--	
AB	The title coatings comprise epoxy resins, 1-50% modifier resins having reduced viscosity (THF, at 25°) 0.1-2 dL/g, glass temperature (Tg) from -120° to 30°, solubility 1 g/100 g in Cellosolve acetate, mol weight 2000-90,000, and particulate materials and/or crosslinkers. Thus, a composition containing 70:30 blend of Epon 1001 (epoxy resin) and Tone 0260 (caprolactone polyol) 45, solvent 287, particulate Zn 300, antissettling agent 11, silica 2.7, and CaO 1.5 parts was applied to steel test panels primed with Zn/Cr and baked at 260° for 2 min to give coatings having good adhesion and appearance (rated highest) in a formability test (circular samples twice drawn at 305 mm/min).				
IT	85023-89-8, Bisphenol A-epichlorohydrin-formaldehyde-melamine copolymer				
	RL: TEM (Technical or engineered material use); USES (Uses) (coatings, containing polyesters, anticorrosive, formable)				
RN	85023-89-8 HCAPLUS				
CN	Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)				
CM	1				
CRN	108-78-1				
CMF	C3 H6 N6				



CM 2

CRN 106-89-8

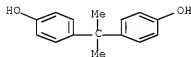
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



CM 4

CRN 50-00-0

CMF C H2 O



L137 ANSWER 35 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1988:39761 HCAPLUS Full-text

DN 108:39761

TI Coated metal sheets having patterns

IN Watanabe, Tadahiko; Akagi, Shingo; Tanabe, Hiroaki; Ishimaru, Mamoru

PA Dainippon Ink and Chemicals, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62110783	A	19870521	JP 1985-250953	19851111 <--
	JP 03074146	B	19911126		
PRAI	JP 1985-250953		19851111	<--	

AB Metal sheets are undercoated and coated with basecoats containing fluororesins and optionally coloring agents, pattern layers containing fluororesins and coloring agents, and topcoats containing fluororesins to prepare sheets having good corrosion and weather resistance. A primer contained 100 parts Epikote 1007, 20 parts Super Beckamine L-105, inorg. compds., and solvents. A base coat contained 100 parts Kyrai 500 (I), 16 parts PMMA, inorg. compds., and solvents. An ink layer contained 100 parts I, 16 parts PMMA, 30 parts di-Me terephthalate, 70 parts Diaproxide 9550 (II; a complex metal oxide pigment), SiO<sub>2</sub>, and solvents. A topcoat layer contained 100 parts I, 16 parts PMMA 3 parts II, and solvents.

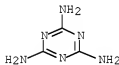
IT 12597-69-2  
 RL: MSC (Miscellaneous)  
 (coating materials, fluororesins, containing coloring agents, on steel)  
 RN 12597-69-2 HCAPLUS  
 CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 85023-89-8  
 RL: USES (Uses)  
 (primers, on steel)  
 RN 85023-89-8 HCAPLUS  
 CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)

CM 1

CRN 108-78-1  
 CMF C3 H6 N6



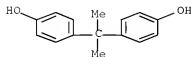
CM 2

CRN 106-89-8  
 CMF C3 H5 Cl O



CM 3

CRN 80-05-7  
 CMF C15 H16 O2



CM 4

CRN 50-00-0  
CMF C H2 O

H2C=O

L137 ANSWER 36 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1985:167961 HCAPLUS Full-text

DN 102:167961

TI Reactive hot-melt adhesives

PA W. R. Grace and Co., USA

SO Jpn. Kokai Tokyo Koho, 19 pp. ADDN to Jpn. Kokai Tokyo Koho Appl. No. 82 171,086.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 59204611	A	19841120	JP 1983-77363	19830430 <--
	JP 58080317	A	19830514	JP 1982-171086	19821001 <--
PRAI	JP 1982-171086		19821001	<--	
	US 1981-317647	A	19811102	<--	

AB A reactive hot-melt adhesive comprises a thermoplastic polyurethane containing an epoxy side chain, which is prepared by treating an epoxy resin with an isocyanate-terminated polyurethane prepolymer. Thus, 127.8 g polypropylene glycol was treated with 61.4 g toluene diisocyanate for 4 days to give an isocyanate-terminated polyurethane prepolymer. Then, 71.6 g prepolymer was treated with 357 g Epon 1001 F (epoxy resin, OH equivalent 357) in the presence of 6 g dicyandiamide and 1 g Ph3P at 80° for 1 h to give a hot-melt adhesive. A steel plate was coated with the adhesive at 125°, pressed with another steel plate, and cured at 160° for 30 min to give a product having peel strength 3200 psi.

IT 12597-69-2, uses and miscellaneous

RL: USES (Uses)

(plates, reactive hot-melt adhesives for, polyurethanes with epoxy side chains as)

RN 12597-69-2 HCAPLUS

CN Steel (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 78099-73-7

RL: USES (Uses)

(reactive hot-melt adhesives from, manufacture of)

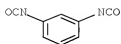
RN 78099-73-7 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 1,3-diisocyanatomethylbenzene and  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanedyl)] (CA INDEX NAME)

CM 1

CRN 26471-62-5  
CMF C9 H6 N2 O2  
CCI IDS





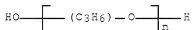
D1-Me

CM 2

CRN 25322-69-4

CMF (C3 H6 O)<sub>n</sub> H2 O

CCI IDS, PMS



CM 3

CRN 106-89-8

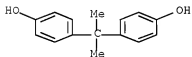
CMF C3 H5 Cl O



CM 4

CRN 80-05-7

CMF C15 H16 O2



L137 ANSWER 37 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1984:593318 HCAPLUS [Full-text](#)

DN 101:193318

TI Thermoplastic with urethane and pendant epoxy groups and thermosetting adhesive containing it

IN Lin, Shioh Ching

PA W. R. Grace and Co., USA

SO Fr. Demande, 42 pp. Addn. to Fr. Demande Appl. No. 82 18282.

CODEN: FRXXBL

DT Patent

LA French  
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2536753	A2	19840601	FR 1983-7195	19830429 <--
	FR 2536753	B2	19870619		
	FR 2515659	A1	19830506	FR 1982-18282	19821029 <--
	FR 2515659	B1	19870320		
	CA 1229192	A1	19871110	CA 1983-423760	19830316 <--
PRAI	US 1982-444987	A	19821129	<--	
	FR 1982-18282		19821029	<--	
	US 1981-317647	A	19811102	<--	

AB An epoxy resin containing  $\geq 2$  OH groups reacts with a diol-polyisocyanate reaction product to give a melt-processable, thermosetting thermoplastic containing pendant epoxy groups which is applied to substrates as an adhesive and cured by heating, giving strong joints. Thus, 61 g reaction product prepared from 127.8 g polypropylene glycol (mol. weight 725) and 61.4 g TDI was mixed with 6 g dicyandiamide and 100 g reaction product (epoxide equivalent weight 292) prepared from 100 g bisphenol A diglycidyl ether and 15 g bisphenol A. The molten mixture was applied to steel surfaces at 100°, and the surfaces were pressed together and heated 30 min at 180° to give a joint with shear strength 241 + 105 Pa (ASTM D 1002-64, 1.27 cm overlap).

IT 78099-73-7 92488-62-5

RL: TEM (Technical or engineered material use); USES (Uses)  
(adhesives, hot-melt, thermosetting)

RN 78099-73-7 HCAPLUS

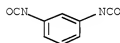
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 1,3-diisocyanatomethylbenzene and  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] (CA INDEX NAME)

CM 1

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



Dl=Me

CM 2

CRN 25322-69-4

CMF (C3 H6 O)<sub>n</sub> H2 O

CCI IDS, PMS

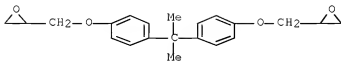




CM 3

CRN 1675-54-3

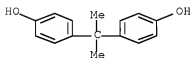
CMF C21 H24 O4



CM 4

CRN 80-05-7

CMF C15 H16 O2



L137 ANSWER 38 OF 38 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1983:127301 HCAPLUS Full-text

DN 98:127301

TI Adhesively lap-bonded can

IN Ueno, Hiroshi; Kobayashi, Seishichi; Tsurumaru, Michiko; Machiya, Toshio; Miyata, Kenichi; Hayashi, Kiyoshi

PA Toyo Seikan Kaisha, Ltd., Japan

SO Pat. Specif. (Aust.), 71 pp.

CODEN: ALXXAP

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	AU 524369	B2	19820916	AU 1978-42898	19781228 <--
	JP 54092483	A	19790721	JP 1977-159332	19771228 <--
	JP 58032104	B	19830711		
PRAI	JP 1977-159332	A	19771228	<--	

AB Heat-resistant lap-bonded cans are prepared by coating the lap-bond portion of a Sn-free steel can blank with an enamel comprising an epoxy resin and a polycyclic polyhydric phenol-containing phenol-aldehyde resin to form an interposing adhesive layer, coating the remainder of the can blank with an anticorrosion enamel comprising a thermosetting resin different from the above adhesive, applying a polyamide-type adhesive to the interposing adhesive layer, lapping the lap-bond portion while the polyamide is still molten, and pressing the lap-bond portion while cooling to effect the lap-bonding. Thus, the outer face of a Sn-free steel can blank was coated with bisphenol A-o-cresol-p-cresol-epichlorohydrin-formaldehyde copolymer (I) [85023-86-5] and

baked 10 min at 190° to give a 2-μ thick coating. The inner surface was stripe-coated with I and baked 10 min at 210° to give a 5-μ thick coating. Then, bisphenol A-p-tert-butylphenol-p-cresol-epichlorohydrin-formaldehyde-phenol copolymer [85023-87-6] was coated on the inner surface, except the portion to be bonded, and baked 10 min at 205° to give a 5-μ thick coating. The outer surface was printed and coated with a finishing varnish by customary procedures. Each of the side edges in the longitudinal direction was preheated along a width of 7-8 min to 270° by high-frequency heating, and a tape of nylon 12 [24937-16-4] adhesive was roll-pressed along the 2 side edges and cooled. The can blank was formed into a cylindrical shape, and the 2 adhesive edges were heated to 250°, pressed together for 30 ms, and cooled to give a can body which was flanged and double-seamed with an Al lid. After heating 100 of the cans 90 min at 130°, there were no broken cans.

IT 85023-89-8

RL: USES (Uses)

(coatings, for adhesive-bonded cans)

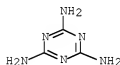
RN 85023-89-8 HCAPLUS

CN Formaldehyde, polymer with 2-(chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-triazine-2,4,6-triamine (CA INDEX NAME)

CM 1

CRN 108-78-1

CMF C3 H6 N6



CM 2

CRN 106-89-8

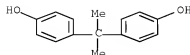
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



CM 4  
 CRN 50-00-0  
 CMF C H2 O

H<sub>2</sub>C=O

=> d his

(FILE 'HOME' ENTERED AT 07:23:40 ON 02 OCT 2007)  
 SET COST OFF

FILE 'REGISTRY' ENTERED AT 07:23:51 ON 02 OCT 2007

L1 STR  
 L2 SCR 2043  
 L3 50 S L1 AND L2  
 L4 65274 S L1 AND L2 FUL  
 L5 29350 S L4 AND OC2/ES  
 L6 2925 S L4 AND CH2O  
 L7 13421 S L4 AND (C2H4O OR C3H6O OR C4H8O OR C5H10O OR C6H12O)  
 L8 38913 S L5-L7  
 L9 18970 S L8 AND N/ELS  
 L10 1692 S L8 AND NCNCNC/ES  
 L11 STR  
 L12 50 S L11 SAM SUB=L8  
 L13 5777 S L11 FUL SUB=L8  
 SAV TEMP L13 LAVILLA559C/A  
 L14 1386 S L10 NOT L13  
 L15 1 S 12597-69-2  
 L16 96307 S STEEL  
 L17 96306 S L16 NOT L15  
 L18 8978 S L8 AND UNSPECIFIED  
 L19 9325 S L9 NOT L10,L13,L18

FILE 'HCAPLUS' ENTERED AT 07:34:31 ON 02 OCT 2007

L20 3584 S L13  
 L21 859 S L14  
 L22 6051 S L18  
 L23 12204 S L19  
 L24 221872 S L15  
 L25 743006 S STEEL  
 L26 21866 S STEEL?/CT,CW  
 E STEEL/CT  
 E E3+ALL  
 L27 332682 S E5+NT  
 E E54+ALL  
 E E14+ALL  
 L28 12496 S E4+OLD  
 L29 4497 S L26 NOT L27,L28  
 L30 1786 S L20-L23 AND L24-L29  
 L31 6696 S L20-L23 AND PY<=2004 NOT P/DT  
 L32 11614 S L20-L23 AND (PD<=20040614 OR PRD<=20040614 OR AD<=20040614) A

L33 18310 S L31,L32  
 L34 1650 S L33 AND L30  
 L35 336 S L17 AND L33  
 L36 1797 S L34,L35

FILE 'REGISTRY' ENTERED AT 07:39:54 ON 02 OCT 2007

L37 FILE 'HCAPLUS' ENTERED AT 07:39:56 ON 02 OCT 2007  
 TRA L36 1- RN : 8945 TERMS

L37 FILE 'REGISTRY' ENTERED AT 07:40:38 ON 02 OCT 2007  
 L38 8945 SEA L37  
 L39 1 S L38 AND 7664-38-2  
 L40 27 S L38 AND 6/F  
 L41 16 S L40 NOT PMS/CI  
 L42 7 S L41 AND 2/NC AND NR>=1  
 L43 9 S L41 NOT L42  
 L44 7 S L43 NOT C6/ES  
 L45 6 S L44 NOT C4HF6NO3  
 L46 126 S L38 AND SI/ELS NOT (PMS OR AYS OR TIS OR CCS)/CI  
 L47 39 S L46 AND NC>=2  
 L48 7 S L47 AND (H4O4SI OR H2O3SI)  
 L49 87 S L46 NOT L47  
 L50 84 S L49 NOT O2SI  
 L51 83 S L50 NOT SI/ME  
 L52 234 S L38 AND (ZN OR AL)/ELS  
 L53 232 S L38 AND (ZINC OR ALUMIN?)  
 L54 142 S L38 AND (7440-66-6 OR 7429-90-5)/CRN  
 L55 240 S L52-L54  
 L56 97 S L55 NOT (AYS OR TIS)/CI  
 L57 70 S L56 NOT (PMS OR CCS)/CI  
 L58 27 S L56 NOT L57  
 L59 143 S L55 NOT L56  
 L60 140 S L59 NOT L17

FILE 'HCAPLUS' ENTERED AT 07:50:19 ON 02 OCT 2007

L61 40 S L39,L45 AND L36  
 L62 143 S L48,L51 AND L36  
 L63 140 S L60 AND L36  
 L64 24 S L61 AND L62,L63  
 L65 16 S L62 AND L63  
 L66 31 S L64,L65  
 L67 47 S L61,L66  
 L68 4 S L67 NOT ?EPOX?  
 SEL AN 2  
 L69 1 S E1-E2 AND L68  
 L70 43 S L67 NOT L68  
 SEL HIT RN

FILE 'REGISTRY' ENTERED AT 08:06:17 ON 02 OCT 2007

L71 165 S E3-E167  
 L72 88 S L71 AND L8  
 L73 29 S L72 AND L13  
 L74 15 S L72 AND L14  
 L75 49 S L72 AND L18,L19  
 L76 7 S L74 NOT (P OR S)/ELS  
 L77 31 S L75 AND UNSPECIFIED  
 L78 24 S L77 NOT 502-44-3/CRN  
 L79 22 S L78 NOT C6H6O  
 L80 21 S L79 NOT C3H4O2

L81 20 S L80 NOT C8H6O4  
 L82 18 S L81 NOT C2H4N4  
 SEL RN 9-12 17  
 L83 13 S L82 NOT E168-E172  
 SEL RN L76 4  
 L84 1 S E173  
 L85 7 S L73 NOT C6H10O2  
 L86 6 S L85 NOT C5H12O2  
 L87 4 S L86 NOT N2CNC/ES  
 L88 23 S L78 NOT L87  
 L89 11 S L88 NOT L83,L84  
 L90 16 S L83,L84,L87  
 L91 12 S 124057-69-8 OR 112154-00-4 OR 72429-63-1 OR 120299-87-8 OR 19  
 L92 4 S L90 AND (72429-63-1 OR 199876-59-0 OR 174514-92-2 OR 124671-4  
 L93 4 S L91 AND (72429-63-1 OR 199876-59-0 OR 174514-92-2 OR 124671-4  
 L94 1 S 66810-89-7  
 L95 7 S L87,L92

FILE 'HCAPLUS' ENTERED AT 08:28:31 ON 02 OCT 2007

L96 27 S L95  
 L97 0 S L96 AND PY<=2004 NOT P/DT  
 L98 22 S L96 AND (PD<=20040614 OR PRD<=20040614 OR AD<=20040614) AND P  
 L99 16 S L98 AND STEEL  
 L100 10 S L98 AND STEEL?/CW,CT  
 L101 16 S L98 AND L25-L28  
 L102 8 S L98 AND L15  
 SEL RN L98

FILE 'REGISTRY' ENTERED AT 08:30:10 ON 02 OCT 2007

L103 228 S E174-E401  
 L104 3 S L103 AND L16

FILE 'HCAPLUS' ENTERED AT 08:30:37 ON 02 OCT 2007

L105 10 S L104 AND L98  
 L106 17 S L99-L102,L105  
 L107 5 S L98 NOT L106

FILE 'REGISTRY' ENTERED AT 08:31:53 ON 02 OCT 2007

L108 35 S L103 AND ((ZN OR AL)/ELS OR ZINC OR ALUMIN? OR (7440-66-6 OR  
 L109 27 S L108 AND (AYS OR TIS)/CI  
 L110 1 S L103 AND L39  
 L111 4 S L103 AND 6/F  
 L112 10 S L103 AND SI/ELS NOT (STEEL OR (AYS OR TIS OR PMS)/CI)  
 L113 8 S L112 NOT (F6SI OR O2SI)

FILE 'HCAPLUS' ENTERED AT 08:33:51 ON 02 OCT 2007

L114 11 S L98 AND L104,L110,L111,L113  
 L115 10 S L98 AND L109  
 L116 22 S L98-L102,L105-L107,L114-L115

FILE 'REGISTRY' ENTERED AT 08:34:34 ON 02 OCT 2007

FILE 'HCAPLUS' ENTERED AT 08:34:56 ON 02 OCT 2007

FILE 'REGISTRY' ENTERED AT 08:35:29 ON 02 OCT 2007

L117 53 S L103 AND L4  
 L118 32 S L117 AND L13  
 L119 28 S L118 NOT L95  
 L120 46 S L117 NOT L95  
 L121 46 S L119,L120



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L122      45 S L121 NOT N2CNC/ES
L123      3 S 134498-50-3 OR 184181-66-6 OR 39320-64-4
          SEL RN L122 11-13 16 30 34 35 37 38 40 41
L124      11 S E402-E412
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FILE 'HCAPLUS' ENTERED AT 08:44:32 ON 02 OCT 2007

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L125      98 S L124
L126      2 S L125 AND PY<=2004 NOT P/DT
L127      88 S L125 AND (PD<=20040614 OR PRD<=20040614 OR AD<=20040614) AND
L128      90 S L126,L127
L129      38 S L128 AND STEEL
L130      24 S L128 AND L26-L29
L131      16 S L128 AND L15
L132      38 S L129-L131
L133      4 S L132 AND L110,L111
L134      7 S L132 AND L109
L135      9 S L133,L134
L136      29 S L132 NOT L135
L137      38 S L135,L136
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